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Letters

mail-order prescriptions

Sir:

The splendid article in the February 1960 issue just received relating to mail-order prescriptions prompts this letter. It is encouraging to know that the danger to the profession and to the general public through the continuance of such practice is being widely recognized.

On two occasions I have been contacted by telephone by the emergency hospital wanting to know the ingredients of certain prescriptions taken by a person brought to the hospital in a dangerous condition. Because the prescriptions were on file, and the information immediately available, the possibility of death was averted. Now could this have been furnished if the pharmacist who filled the prescription had been in some remote part of the United States?

Other reasons why legislation prohibitive to interstate mail-order service is necessary have been adequately covered in the article by Paul A. Pumpian. I need not but add my personal objection to the continuance of such practice. I solicit the AMERICAN PHARMACEUTICAL ASSOCIATION to continue its fight for adequate legislation against mail-order prescriptions.

David Glick
Alhambra, California

re-instatement

Sir:

With the announcement of an increase in APhA yearly dues to $25, I hastily cancelled my membership. With pharmacy under fire from seemingly all directions I belatedly realize the need for strong representation. Accordingly please re-instate and invoice the amount of the dues.

Taras N. Schmidt
Cleveland, Ohio

answer to the group plan

Sir:

An article in the Michigan United Auto Worker's (February, 1960) paper states that thousands of UAW members, both working and retired, have found a way to beat the cost of vital prescription medicines. A group of people, interested in participating in a genuine discount plan, find a large and honest-enough retail firm which will give substantial and generous discounts to those presenting proper credentials.

Here is a spot, I believe, for the pharmacist with the help of APhA to take a stand. The pharmacist can regulate this type of operation by refusing to work with a group such as this which has no interest in the profession of pharmacy but only self-interest at heart.

All pharmacists must realize that they are professional men with a duty to improve their profession and protect it from outside interests who are trying to undermine and destroy it. Unless they do, we may reach the point where the independent pharmacist, owning his own store, will be a thing of the past, having been replaced by huge firms interested only in the money to be made by incorporating a pharmacy into their other operations.

A group plan, such as the UAW's, is basically wrong because it gives special prices to a special interest group which, in actuality, has no special need.

If a union member feels that he is being treated unfairly by his employer, he refuses to work. The pharmacist, therefore, should refuse to work for these corporations. As stated in the article, "Many pharmaceutical manufacturers object bitterly to price-cutting." And they stand by their convictions.

Shortly after the firm began its discount policy, two leading drug manufacturers refused to sell to the firm. Others practiced the old credit squeeze, demanding cash on delivery for supplies. The drug firms have tried to protect and aid the profession; the men who practice in the retail field should do the same by looking not only at the wages that a prospective employer has to offer but also the type of operation which is being conducted.

Richard J. Fifelski
Grand Rapids, Michigan

emphasis on research

Sir:

I would like to congratulate you on the January issue of the *Practical Edition* of the APhA JOURNAL. It alone was worth the $25 annual dues to the organization. I wish that the transcript of the Kefauver hearings could be read by every pharmacist in the nation.

I noticed, with regret, that very little emphasis was placed on the fine research that went into the discovery of the new drugs which are being pirated by the "bargain basement" manufacturers. I don't think enough people realize that by using low cost generic name drugs they are helping to curtail new product development.

If Mr. Blackman's suggestions were adopted, the pharmaceutical industry would be reduced to a level of no progress, no research, no initiative, and no new and wonderful medications.

After reading the various testimonies, pharmacists everywhere will take another look at the brand names they have on their shelves.

Jack B. Ogun
Irwin, Pennsylvania

professional status

Sir:

Ensign Anstine's letter of naval pharmacy trainees in the January, 1960 issue of THIS JOURNAL highlights but one of the anomalies of pharmacy. It is not enough to object to the use of narrowly trained "dispensers" when the professional status of pharmacy has not yet been firmly established.

Although I am a graduate chemist, I have worked with and strived for professional pharmacy for the past seven years. I have seen the problems which confront the pharmacist in his fight for professional recognition, but professional status will not come because of a law being passed. It will come from pharmacists who are professional in *thought* and *practice*.

H. M. Effron
Ensign, USNR

a strong association

Sir:

During the four years that I was a student at the University of Pittsburgh school of pharmacy, I was a member of APhA.

Now that I have graduated and become a registered pharmacist, I have come to believe that pharmacy can only progress if there is a strong national association.

I have been very fortunate to receive a commission as one of the few pharmacy officers in the United States Air Force. After finishing an orientation course at Gunter Air Force Base, I became the chief pharmacist at Lowry Air Force Base Hospital in Denver, Colorado. It is a large responsibility for a young fellow and knowing that I have a strong association to back me up will help me quite a bit.

Therefore, I proudly enclose a check for my first year's dues.

Lt. Robert A. Lewinter
Lowry AFB
Denver, Colorado

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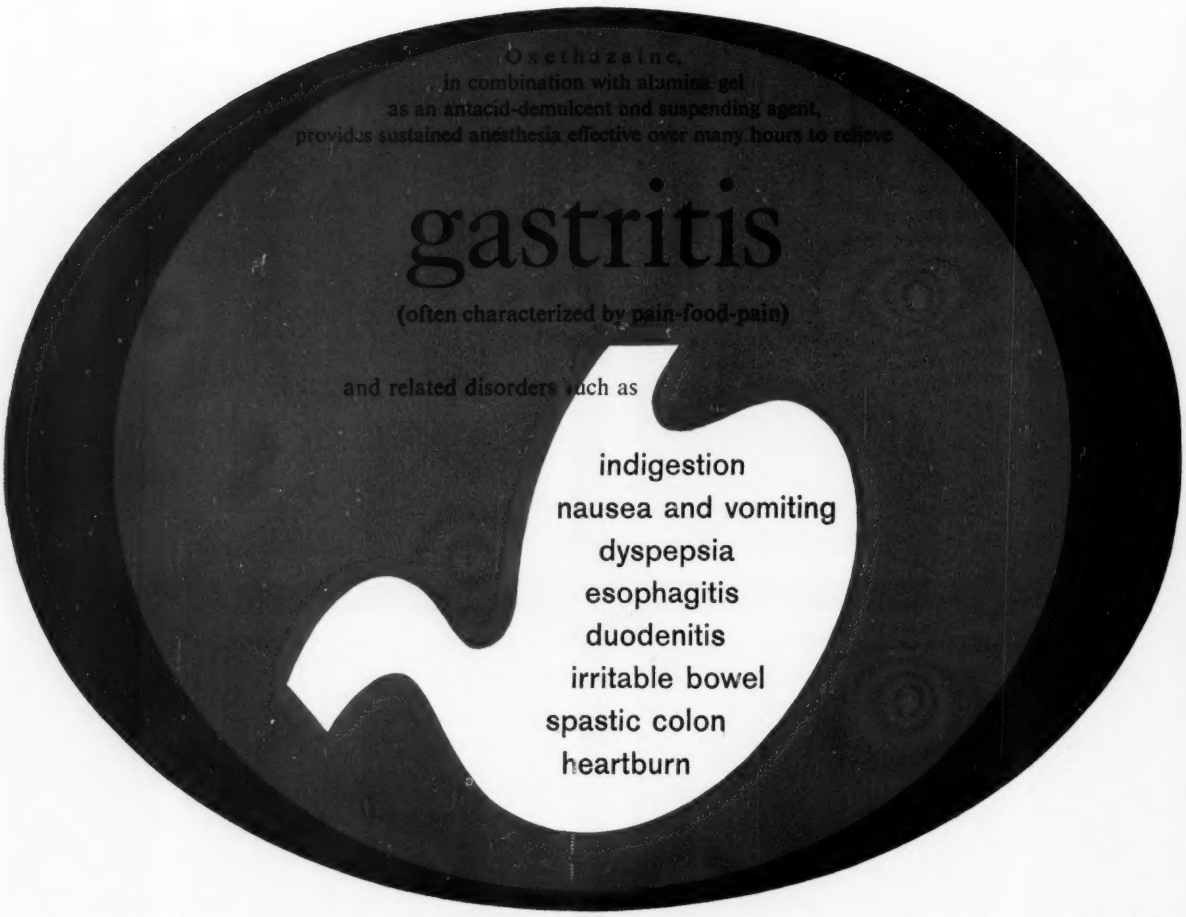

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$425,000 appropriated to Kefauver committee—"Unless there is a marked departure from the previous efforts of this subcommittee in good conscience, we should save the American taxpayer further expenditure . . ." So concluded Senator John M. Butler (Maryland) as he vigorously protested on the Senate floor an additional appropriation of $425,000 to continue the activities of the antitrust and monopoly subcommittee. He pointed out that Congress had authorized $1,065,000 "to permit this subcommittee to carry out the investigations entrusted to it and to make recommendations to Congress. . . . During the past 2½ years, extensive investigations have been conducted involving many industries, including steel, automobiles, milk, bread, asphalt roofing and now drugs. In spite of these extensive hearings, no changes in existing antitrust statutes have been recommended."

After further debate, Senator Allen J. Ellender (Louisiana) demanded that the budget of the subcommittee, showing the number of counsels and attorneys (16) and how the money is going to be spent, be printed in the Congressional Record (February 8). In the new budget $361,290.35 will be divided among 39 staff members and temporary consultants. In addition $63,709.65 is to be used for administration expenses.

A detailed report on the general hearings of the antitrust and monopoly subcommittee will be carried in the April issue of THIS JOURNAL.

international health committee—At the request of the Department of State, HEW Secretary Arthur S. Flemming will serve as chairman of an interdepartmental committee on international health policy, now established on a permanent basis. The committee will regularly advise the Secretary of State as to objectives, long range goals and planning programs in the field of international health.

radioactivity study—Congress was asked by President Eisenhower to appropriate $332,000 so that the Food and Drug Administration can purchase equipment for an expanded food radioactivity study. This supplemental request to the $400,000 already appropriated this fiscal year for such studies will be used to increase the number of samples checked and to determine what foods are affected by fallout and other radioactivity. Plans call for dividing $300,000 among 10 regional laboratories, with the remaining $32,000 to be spent for new equipment for the FDA laboratory in Washington, D.C.

new bill—H.J. Res. 592 proclaiming "National Poison Prevention Week" was introduced by Congressman Jones of Missouri on February 1 (see page 140).

Dean Howard C. Newton of the Massachusetts College of Pharmacy, President of the American Pharmaceutical Association

In all things, success depends upon previous preparation, and without preparation there is sure to be failure

Many axioms have been facetiously attributed during the past decade to the great Chinese religious philosopher, Confucius. You have my assurance, however, that Confucius *did* say the lines I have quoted above.

Few of your accomplishments could have been achieved had it not been for careful planning by you or someone else interested in your achievements. It is hardly a matter of chance, for instance, that you are a pharmacy student or, as the case may be, a practicing pharmacist. *You had a plan*, and no matter what your present objective—whether it is to graduate with honors, to have a pharmacy of your own or, perhaps, to expand your present practice—a plan is indispensable.

I wrote above of careful planning by you or *by someone else interested in your achievements*, and my latter reference was to your own professional organization, the AMERICAN PHARMACEUTICAL ASSOCIATION, which has always striven to foster your best interests.

Currently, the ASSOCIATION's interest in your welfare is best evidenced in APhA Life, the life insurance program that has been evolved for your benefit. It is intended to supplement your existing life insurance program. Because the original plan, which was limited to members under age 36, has proved successful, it has now been extended to include members to age 65.

Naturally, in my position, I wanted to be sure that the plan selected would be *right* for you in every respect. Of that, I am convinced. . . . for example, APhA Life is *noncancellable:* that means that *only* you, the policyholder, can cancel it; the insurance company *cannot*.

I am wholeheartedly in favor of adequate life insurance for members of the pharmaceutical profession.

APhA Life is issued by The Minnesota Mutual Life, a company 80 years old with over $250,000,000 in assets and $2,500,000,000 of life insurance in force.

Editorial

a most challenging problem

This issue of the JOURNAL of the AMERICAN PHARMACEUTICAL ASSOCIATION, *Practical Pharmacy Edition*, is devoted largely to what Dr. Leroy E. Burney, surgeon general of the U.S. Public Health Service calls "one of the most challenging problems in modern public health." We are indebted to Dr. Burney for his stimulating "Guest Editorial" which appears on page 123 and we certainly agree wholeheartedly with him when he states that "no one is in a better position to practice sound health education than the pharmacist."

Members of the AMERICAN PHARMACEUTICAL ASSOCIATION are, of course, proud of their continuing activities in the field of public health and patient safety including poison prevention through public education. Such service with specific regard to poison control began more than 100 years ago. It was in 1857 that APhA initially appealed to all pharmacists in the United States to see that all poisons were properly labeled and that the purchaser was personally cautioned on the use of potentially dangerous substances. This is still a timely recommendation in 1960.

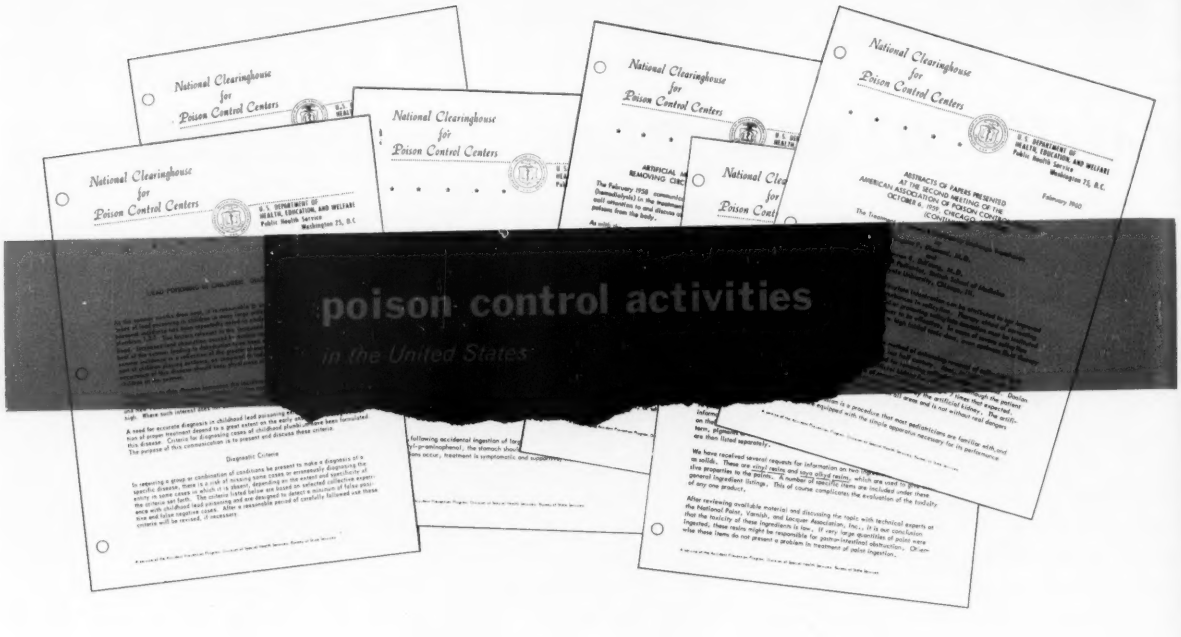
Statistics from the National Clearinghouse for Poison Control Centers emphasize the fact that drugs used in those products advertised to the public are among the worst offenders in the poisoning of children. One study indicates that 983 poisoning cases out of a total of 2,152 reported—or more than 25 percent—were due to aspirin. Laxatives and cough preparations were among other major drug offenders.

Noting these statistics, we are surprised that there would be any question as to whether the sale of drugs should be made in outlets other than established licensed pharmacies with the presence of a pharmacist. Yet, for example, a 14-week long trial over the unsupervised sale of drug products in supermarkets and other unlicensed outlets ended recently in Minneapolis. The court heard testimony from some witnesses who minimized the dangers and toxicity of aspirin and other drug products now being advertised to the public. Fortunately, there were also those present at the trial who clearly described the dangers—Dr. Richard Raile, chief, pediatric service, Minneapolis General Hospital, who reported that there were 262 cases of accidental aspirin poisonings at his hospital in a single year or Dr. J.A. Bargen, chairman of the Mayo Clinic department of gastroenterology, who reported the findings of a nine-year study on laxatives and their potential hazards through incorrect or prolonged use.

We have reported again and again that packaged medicines are more than mere articles of merchandise. They are medicinals whose distribution and use must be under the supervision of a professionally trained and competent person to safeguard the public's health. If the handling of drugs were not a matter of the utmost importance to public health, the public would not have required the licensure of pharmacists and pharmacies more than a century ago and would not continue to demand higher standards.

Mere label statements are not enough. They are not always read, understood or followed. Personal guidance by a pharmacist at the point of sale is essential to supplement label statements. Furthermore, the availability of a medicinal in a nondrug outlet, such as a supermarket, tends to make the purchaser feel that the drug can be taken without regard to cautions. The purchase of drugs in a pharmacy influences the customer to pay attention to such cautions. The very procurement of a drug in a licensed pharmacy from professional qualified personnel is something which permeates the thinking and attitude of the purchaser insofar as the potential dangers of the medicinal are concerned. This, in turn, aids in the importance of the proper storage of these drugs in the home, far out of reach of children.

The public and the medical profession rightfully expect the pharmacist to assume his supervisory responsibility in matters of drug distribution and use. We are confident that he will continue to discharge this important professional function. We hope that the information contained in this special issue will further assist every pharmacist in the United States to provide maximum assistance in poison prevention.



by Henry L. Verhulst and Howard M. Cann, MD

National Clearing House for Poison Control Centers
U.S. Public Health Service

Pharmacists have long served as consultants to physicians on the formulation of substances accidentally ingested and have recommended treatment. In rural communities when medical care was not available, the pharmacist provided first aid information on such ingestions.

Early in the century, this information was obtained from a number of charts and lists of antidotes prepared by medical authorities. More recently, technological advances not only reduced infant and child mortalities from infectious diseases by the discovery of vaccines, antibiotics and chemotherapeutic agents, but also increased the threat of poisonings with the development of many new potentially toxic chemical substances such as insecticides, solvents and cleansers commonly used in the home.

In 1957, accidental ingestion of poison caused the death of 1,390 people, approximately 450 of whom were children under five years of age. Since there are perhaps 500 ingestions for each death, accidental ingestion of poisons and potential poisons has become a significant medical problem.

The American Medical Association has estimated that there are approximately 250,000 toxic or potentially toxic trade-name products on the consumer market. Many of these bear labels containing ingredient information. Federal law requires that the ingredients of drugs, pesticides and caustic-containing products be on the label. However, cleaning fluid, bleach, soaps, detergents, polishes, paints and a host of other "labor-saving" household products, which are involved in many accidental ingestions, are not required to be labelled with ingredient information except in a few states.

Obviously the physician cannot be familiar with the composition of all these unlabelled products although some knowledge of ingredients is necessary for institution of proper treatment of a poisoning case. Furthermore, many substances found in trade-name products are obscure; pathophysiologic effects are usually known only to those few chemists, toxicologists and physicians interested in a specific substance. The busy practitioner cannot be expected to be cognizant of the effects of sodium tripolyphosphate, aluminum chlorhydrol, ammonium thioglycollate, benzene hexachloride and many other unfamiliar, potentially toxic chemical constituents found in everyday household products.

In 1952 the American Academy of Pediatrics conducted a survey of accidents encountered by members in private practice.* The study showed poisoning to be the cause of 51 percent of all child accidents reported. This showed the need for a center which physicians could call in cases of poisoning by a product whose constituents were unknown.

Under the auspices of the Illinois chapter of the American Academy of Pediatrics, a pilot project, called a "poison control center," was initiated in Chicago with the co-operation of the heads of the pediatric services in the major hospitals, the health department, state toxicological laboratory and other state and local authorities. The program drew together into a working unit some 20 hospitals, four full-time health departments, five medical colleges, the local medical society, the

* Wheatley, George M., "Accidental Poisoning in the Home," American Public Health Association Meeting, Kansas City, Missouri, November 18, 1955.

local chapter of the American Academy of Pediatrics, American Public Health Association and other groups.

When the Chicago Center opened in November, 1953, information, treatment and prevention of accidents were its major objectives and procedures were developed to achieve these goals. Dr. Edward Press was chairman of the Chicago Center at this time. Through his guidance—and with the support of the American Academy of Pediatrics and its accident prevention committee—similar centers were soon established throughout the country.

The centers are usually associated with a medical school or a large hospital. Often a center is sponsored by a medical society and public health assistance at either the local or state level is frequent. Equipped with a laboratory, library, house staff and faculty, "information centers" give information on a 24-hour basis. Hospitals with less complete facilities act as treatment centers, giving 24-hour treatment but telephoning the "information center" for information when necessary. Thus ingredient and toxicity information on almost any toxic or potentially toxic product is available to physicians. The centers also keep abreast of current methods of poisoning therapy. Such information is available to physicians at all times. In some centers, pharmacists, nurses or sanitarians, working under a physician's supervision, give this information although it is usually provided by a physician himself.

If a nonmedical person calls the center for help (a mother whose child has swallowed some sleeping pills, for example), only immediate first aid instructions are given and the person is advised to call his physician at once.

Many poison control centers keep records of all cases they encounter. The local health department in many areas co-operates with the poison control center and sends public health nurses on follow-up visits to obtain information on the cause of the accidental ingestion. Case reports are coded, tabulated, analyzed and used in planning prevention programs.

Because of the ever-increasing number of poison control centers and because of the growing number of products placed in consumer circulation by industry, co-ordination of the activities of the poison control centers seemed necessary.

Accordingly, in November, 1956 at a meeting of the American Public Health Association, a recommendation was made that a National Clearinghouse for Poison Control Centers be set up by the

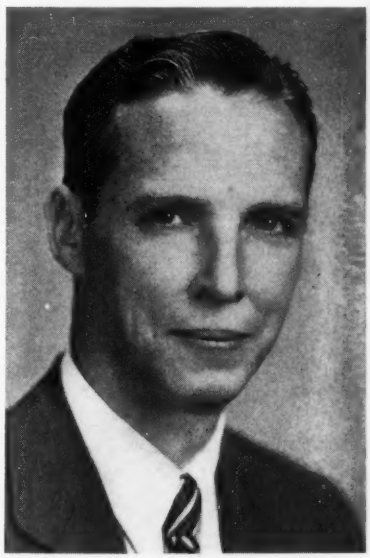
(*Continued on page 124*)

Guest Editorial

Leroy E. Burney, MD

No development in the public health field in recent years in this country has afforded more gratification to me than the phenomenal growth and demonstrated effectiveness of the local poison control center movement.

It is also heartening to find that a publication of such wide professional influence as that enjoyed by the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, *Practical Pharmacy Edition*, has decided to devote a generous portion of its current issue to poison control centers.



Leroy E. Burney, MD

Surgeon General, Public Health Service

In response to many requests—from medical groups, public health organizations and pharmaceutical bodies—we established in 1957 a National Clearinghouse for Poison Control Centers within the Public Health Service. This Clearinghouse has functioned as a co-ordinating and research service to hundreds of local centers throughout the nation. It has, I believe, contributed significantly to the knowledge and efficiency of these centers.

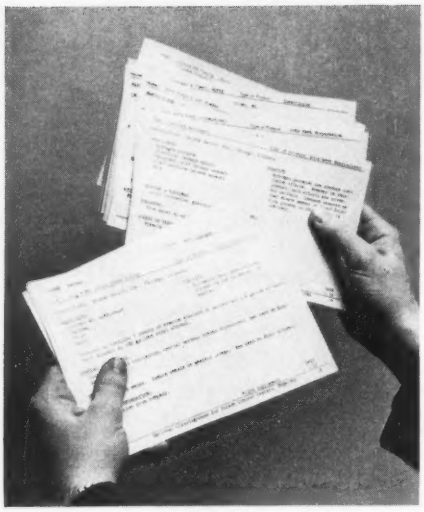
The poison control movement has the attributes of a sound public health program. It is locally inspired and locally administered—the community base is solid. It is co-operative in origin and in operation. It is practical. It was developed to meet a real health need and it is meeting that need.

None of this would have been possible without the constant and whole-hearted co-operation of the pharmaceutical profession and the pharmaceutical industry.

Because pharmacists deal constantly with the public, they have a unique opportunity to help prevent accidental poisonings. No one is in a better position to practice sound health education than the pharmacist who can warn dozens of parents daily to keep medications out of the reach of children. Simply seeing that "*Keep Out of Reach of Children*" labels are attached to all medication containers would be a tremendous contribution to the preventive side of the poison control program.

The pharmacist, who traditionally has been a respected neighborhood advisor, can take full advantage of his position in the community to give vital support to the prevention of childhood poisonings.

And in furthering this most important work the pharmacist will be aiding the entire broad field of accident prevention, one of the most challenging problems in modern public heath.



Through the National Clearinghouse for Control Centers, U.S. Public Health Service, local centers through their state health departments can obtain an indexed card file containing trade names and information on the composition, concentration and lethal dosage of each agent.

Poison Control Activities

(*Continued from page 123*)

U.S. Department of Health, Education, and Welfare. The meeting was attended by representatives from poison control centers and from such national organizations and government agencies as the American Academy of Pediatrics, AMERICAN PHARMACEUTICAL ASSOCIATION, Food and Drug Administration, the National Research Council, Children's Bureau and Public Health Service. In compliance with the recommendation, the National Clearinghouse for Poison Control Centers was designated as an activity of the Public Health Service and placed in the accident prevention program.

It is an important function of the National Clearinghouse to collect from many sources information on poisons and potential poisons. Textbooks and journals of pharmacology, medicine, toxicology and chemistry are consulted. Existing card files from individual poison control centers are utilized. The National Clearinghouse contacts industry for information that manufacturers and distributors can contribute in order to keep abreast of new products and changes in the composition of existing products. Government agencies are also a source of a large amount of pertinent information.

An indexed card file is distributed to those local centers designated by state health departments. The cards are indexed by trade name and contain information on the composition, concentration and lethal dose of each specific agent, plus symptoms and treatment.

accidental ingestions

Percentage distribution by type of substance and type of case, of 11,646 accidental ingestions in children under five years of age, 1954–1958

type of substance	all cases
Total	100.0
Medicines	48.0
Internal	41.4
Aspirin-baby	12.9
Aspirin-adult	2.6
Aspirin-unspecified	6.0
Laxatives	2.4
Cough medicine	1.7
Tranquilizers	1.6
Antihistamines	1.4
Barbiturates	1.2
Vitamins and minerals	1.1
Other internal medicine	10.5
External	6.6
Liniment	1.5
Ointment	0.8
Camphorated oil	0.7
Other external medicine	3.6
Cleaning and Polishing Agents	17.0
Soap, detergents, etc.	1.4
Bleach	3.8
Seal oil polishes	1.8
Other polishes	0.9
Disinfectants	1.5
Corrosives, caustics, etc.	4.1
Others	2.5
Pesticides	10.0
Petroleum products	6.0
Paints, varnishes, etc.	4.8
Cosmetics	4.8
Plants	2.2
Gases and vapors	0.1
Others	6.6
Unspecified	0.5

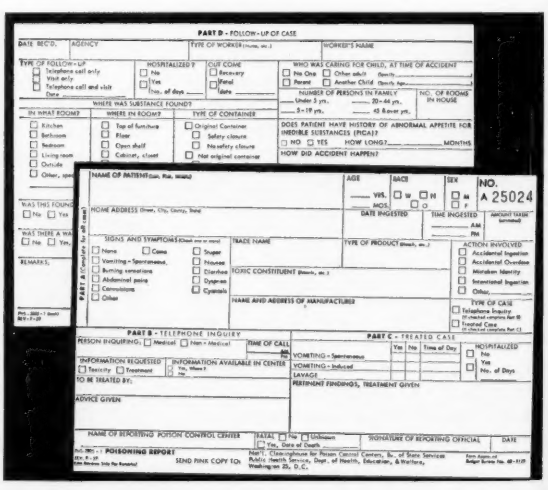
Source: Individual case reports submitted to the National Clearinghouse by 59 poison control centers.

A form for reporting individual poisonings was developed by the National Clearinghouse in co-operation with the American Public Health Association, providing a standard record to be used by centers and health departments in recording data on treatment and follow-up. This form is available to all poison control centers without cost. Approximately 100 centers are currently submitting such data to the National Clearinghouse where it is tabulated and analyzed. The reporting system also furnishes information about the effect of various drugs and other chemicals on human beings.

Some 15,000 reports of poisoning accidents (1954–1958) from 59 centers in 20 states have been summarized and analyzed. Approximately 90 percent involved children under five. The table gives for this age group a percentage distribution by type of substance ingested. Aspirin (largely baby-type) accounted for half of the internal medicine group and 20 percent of all accidents. The age frequency distribution in which specific types of agents were ingested seems to be related to stages of growth and development. The percentage involving medicines increased with age—from 23 percent in the one-year olds to 60 percent in the three- to four-year olds.

At the time of ingestion 70 percent of the toxic substances were not in their customary place and one third of the substances had been transferred from the original container to drinking glasses, pop bottles, etc. The younger the child the more frequently he ingested substances in substitute containers or those left in accessible spots (furniture tops or open shelves).

A National Clearinghouse for Poison Control Centers bulletin is published


PART D - FOLLOW-UP OF CASE

PART A - TREATED CASE

PART B - TELEPHONE INQUIRY

PART C - TREATED CASE

POISONING REPORT

SEND PINK COPY TO:

Developed by the National Clearinghouse was this form which provides a standard record for keeping treatment and follow-up data.

Director of the National Clearinghouse for Poison Control Centers since its origin in 1957 is Howard M. Cann. After receiving his MD from the University of Colorado in 1954, Cann spent one year of internship at San Francisco Hospital and went on to residency training at the University of Colorado medical center and at Stanford University. He has authored or co-authored articles on the subject of poison control which have appeared in such publications as the *Journal of the American Medical Association* and *Pediatrics*.

periodically containing statistical data obtained from the poison report forms analysis, reports on new treatments for poisonings found in the literature or sent in by individual poison control centers, interesting cases of poisoning and abstracts from the literature on poisoning.

The National Clearinghouse stimulates epidemiologic research, the development of new treatments for poisonings and studies of the basic mechanisms and metabolism involved in poisoning.

The Clearinghouse has adopted the following definitions for classifying local centers:

1. Poison Information Center

A poison information center is concerned solely with collecting and disseminating information concerning all aspects of poisoning. Such centers are usually located in large health departments or university medical or pharmacy schools. They do not have treatment facilities. These centers aid state and local health departments in preparation of educational materials on prevention.

2. Poison Control Center

A poison control center is a self-sufficient unit, combining a poison information center and a treatment center. It is located in a large hospital and aids state and local health departments in planning educational programs for prevention.

3. Poison Treatment Center

The *poison treatment center* is located in a hospital emergency room. The center maintains a small reference service from which limited information can be furnished to local physicians for many common substances and it is in touch with a poison information or control center. Necessary antidotes and equipment are readily available for emergency treatment of poisoning. The poison treatment centers also serve as a nucleus for the development of community programs to educate parents on the need for prevention.

At the present time there are 347 poison control centers in 51 states and territories, providing sufficient service to most areas in the nation. Some of the poison information and control centers are receiving from 200 to 300 requests for information per month. This has placed a burden on the resident staff of these hospitals. Every hospital with an emergency room should be encouraged to establish a poison treatment center.

The hospital pharmacist has an excellent opportunity to aid in the establishment and operation of the poison treatment center. Local retail pharmacists can offer a real service to smaller hospitals which do not employ pharmacists by collecting antidotes and seeing that these are inspected regularly to insure proper potency.

Most poison control activities to date have related to emergency treatment but there is a need for parent education. Medicines should be kept out of the reach of children. Inedible substances should never be placed in food containers. Labels should be read thoroughly before medication is given. When old medications or products are discarded, they should be flushed down the drain instead of being placed in garbage receptacles where children may find them. Above all, a physician should be called immediately when a child has ingested a questionable substance.

Local pharmaceutical associations are in an excellent position to furnish speakers to parents' groups to discuss the need for prevention. No one is better qualified to discuss precautionary measures. The pharmacist has a personal contact with the patient when he purchases medications. Since personal contact is generally considered a most effective medium for promoting a program, the pharmacist should caution parents on ingestion hazards.

The AMERICAN PHARMACEUTICAL ASSOCIATION has made a fine contribution in the direction of prevention by making available an excellent talk with slides which may be used when speaking before PTA's, women's clubs and other lay groups (*see page 136*). We urge

A native of Seattle, Henry L. Verhulst received his pharmaceutical education at the University of Washington. As an affiliate of the U.S. Public Health Service, he has served in outpatient clinics in California and Oregon and was chief pharmacist of the outpatient clinic in Washington, D.C. When the National Clearinghouse for Poison Control Centers came into being in 1957, Verhulst was named assistant director. He is the co-author of articles which have appeared in various publications on the subject of poison control.

every local association to procure this material and schedule its use for presentation to local groups. Let this serve as an incentive for local pharmaceutical organizations to develop additional programs aimed at prevention of accidental poisoning.

In 1958 the first meeting of the American Association of Poison Control Centers was held and a constitution adopted. The purpose of the organization is to provide a framework for voluntary association of professional personnel concerned with or interested in poison control centers. Its objective is to improve methods for prevention and treatment of poisoning. Dr. Robert Grayson was elected the first president. The second meeting was held in 1959. Any person who is associated with the activities of a poison control center is eligible for membership. Arthur Blank, Director of the Connecticut State Poison Information Center in Hartford and secretary-treasurer of AAPCC, will furnish applications on request.

A great deal has been accomplished in the past few years by the various groups affiliated with poison control activities. These groups are all to be congratulated. The pharmaceutical profession has always been a leader in guarding the health of the community. We believe the pharmacist in every community will add his efforts to bring about a reduction in accidental poisonings by (1) **increasing the efficiency of treatment facilities** and (2) **stressing prevention to parents.** ●

by Lucius A. Bowser and Richard J. Russo

role of the retail pharmacist in poison control

A pilot study of poison inquiries in local pharmacies represents only one phase of Lucius A. Bowser's work in the field of poison control. He presented a paper on that study before the 1959 Symposium on Accidental Poisoning at Princeton, New Jersey. He is secretary of the St. Elizabeth Hospital Poison Control Center, Elizabeth, New Jersey and served for two years as chairman of the poison control committee of the New Jersey Pharmaceutical Association. A graduate of Rutgers University college of pharmacy, Bowser is a retail pharmacist and is serving as the 1960 president of the Union County, New Jersey, Pharmaceutical Society.

It is no longer necessary to go to the corner pharmacy and purchase products bearing the skull and cross bones to have poisons available in the home. Toxic amounts of cleaning fluids, kerosenes, rat poisons, hair waving solutions and a host of other products can be—and are—bought at the pharmacy, supermarket, neighborhood sundry and specialty store.

The greatest potential accidental poisoning hazard lies in the fact that thousands of products containing new chemicals—and old standby products with new combinations—are being marketed for home use each year. Store shelves in family shopping areas offer ever-increasing varieties of cosmetics, medicines, detergents, cleaning and polishing agents, paints and solvents, fertilizers, pesticides and innumerable other products to make life easier. When properly used, these products are valuable and harmless. However, if misused, they can be potential poisons.

With the ever-increasing number of cases of accidental poisonings reported and the ever-flowing tide of new products to the consuming public, the role of a retail pharmacist becomes more and more important. A pharmacist becomes an integral part of this human puzzle when he assumes the many roles of educator, consultant, liaison and voluntary staff worker. Each of these community service responsibilities of a pharmacist will be discussed separately.

Richard J. Russo has been associated with the New Jersey State Department of Health for four years and is currently state consultant of its poison control program. He is a member of the special committee on operation of centers for the American Association of Poison Control Centers. A graduate of the Fordham University college of pharmacy, Russo received his MS degree in public health at Columbia University. He has published articles in the New Jersey *Public Health News* and the *Journal of the American Medical Association.*

pharmacist as educator

Of all the multipurpose responsibilities of a pharmacist in upholding his national slogan—*Your Pharmacist Works for Better Community Health*—the role of educator is of the utmost and prime importance. In his everyday role as practicing pharmacist, he is in an enviable position to give firsthand warnings on the potential toxicities of many products on his shelves as well as others with which he comes in contact. On the many sales of aspirin, or headache preparations, he can and should remind parents to keep these and other medications out of the reach of young children and he should warn parents on the safe administration of these medications.

From statistics gathered from many sources, approximately 23 percent of all cases of accidental poisonings are the result of the ingestion of aspirin and aspirin-like substances, either combinations of them or the newer forms of acetyl p-aminophenols. Because of the widespread applications, usage and forms available, it is no wonder that aspirin leads the list in accidental poisoning. A pharmacist should in all circumstances remind a mother that when she is giving highly flavored or brightly colored medications, such as flavored aspirin tablets, to her youngsters, she should stress that it is a medicine and not refer to it as candy. Many cases of accidental poisoning can be traced back to a parent's referring to a medicine as candy—and, of course, children just love "candy" and return to seek more "candy" when mother isn't around. Thus another tragic poisoning.

The pharmacist has a moral and civic responsibility to remind the public constantly of potential and hidden dangers in all medications, not only in aspirin medication. Constant reminders, such as, "Read all labels before use" and "Keep out of the reach of children," should be just as much a part of every conversation as "Hello" or "Good Morning." The unconcerned public invariably takes too much for granted and surveys have shown that many people do not read labels correctly or neglect to read them at all. This is one area where the responsibility of the pharmacist needs to be emphasized to make his role as educator more effective.

Another phase of education in which responsibility rests on the pharmacist is somewhat a continuation of the same area—informing the community of the hidden dangers in medication. This can be accomplished through a local speaker's bureau of the pharmaceutical society. Talks on accidental poisoning can be made to many organ-

izations and groups in the community, such as service clubs, Lions, Kiwanis, Rotary, safety councils, first aid squads, church groups, the Boy and Girl Scouts, fraternal organizations, youth groups, parent-teacher associations, preschool circles and numerous other groups. This avenue of communication is ideal because it transmits the picture of the complexities of the problem to the masses, especially to those in the community who have influence in molding public opinion. As you undoubtedly know, community groups are always looking and seeking for good educational material and speakers for their programs.

Along with these speaking engagements, pharmaceutical societies and individual retail pharmacists can prepare articles for their local newspapers and radio stations on the problem of poison control in an effort to prevent the occurrence of accidental poisoning. Charts based on statistics from local and state agencies on poisoning can be prepared by local pharmacists and displayed publicly as constant reminders. Inexpensive posters or handout leaflets can be made warning customers of the hazards of accidental poisoning or a list of recommended measures to prevent poisoning accidents can be prepared. This list could include the following:

A. Keep all drugs, poisonous substances, and household chemicals out of reach of children.
B. Do not store inedible products on shelves used for storing food.
C. Keep all poisonous substances in their original containers; do not transfer to unlabelled containers.
D. When medicines are discarded, destroy them. Do not throw them where they might be reached by children.
E. When giving flavored and/or brightly colored medicine to children, always refer to it as medicine—never as candy.
F. Do not take or give medicine in the dark.
G. Read labels before using chemical products.

Antidote and emergency poison first aid charts can be distributed by pharmacists in co-operation with other health and safety organizations. Displays and exhibits can be erected in public places such as libraries, banks, saving and loan associations, theater lobbies and the new approach, outdoor drive-in-theaters (*see Figure 1*). This physical setup is easy on the budget of any pharmaceutical society and/or individual pharmacist. In co-operation with state and local health departments, more elaborate and expensive exhibits can be produced to help educate the public about the overall community responsibility in presenting and controlling accidental poisoning.

pharmacist as consultant

Practically daily or several times a week a physician, parent or hospital consults with pharmacists on the relative toxicities of many new products coming to their attention. The busy physician has learned to depend on the local pharmacist as a consultant on new medications and similarly he depends on the pharmacist for information on the toxicity and the potential hazards of many of the innumerable products on the market today. A pharmacist should have adequate reference material and antidote information readily available to assist the physician when he calls (*see article by Dr. Rodman on page 149*). The confused and distraught parent, in many cases of accidental poisoning, consults the neighborhood retail pharmacist for information and advice. Therefore, it is essential for every pharmacist to know the location and telephone number of the nearest poison control center.

Pharmacists, with the co-operation of their local pharmaceutical society and their local poison control center, could take the responsibility for keeping a record of poison inquiries which are made in their pharmacies. Such reports could be periodically tabulated, analyzed and evaluated and the results could be used for establishing preventive practices and for press and radio releases to help educate the public. Such a project was co-sponsored by the Union County Pharmaceutical Society and the New Jersey State Department of Health for a six-month period during 1959. Undertaken as a pilot study, this project proved that many parents rely on the integrity and training of the retail pharmacist for information and consultation in many of their health problems, including poisoning.

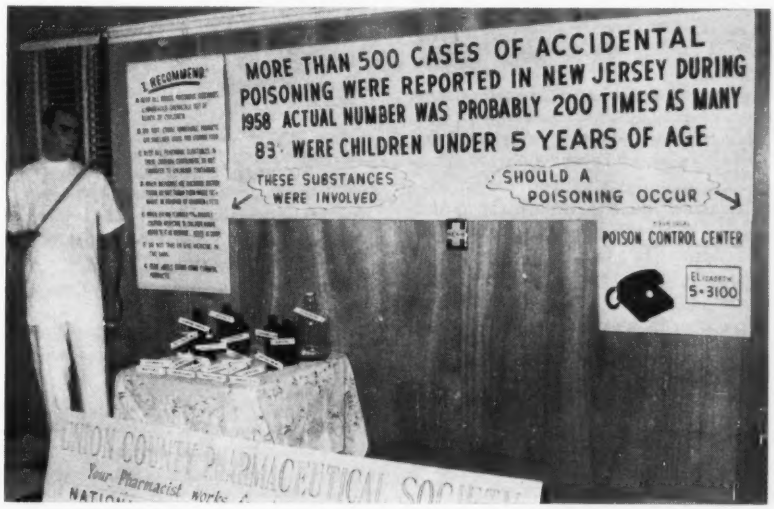

I RECOMMEND
MORE THAN 500 CASES OF ACCIDENTAL POISONING WERE REPORTED IN NEW JERSEY DURING 1958 ACTUAL NUMBER WAS PROBABLY 200 TIMES AS MANY
83 WERE CHILDREN UNDER 5 YEARS OF AGE
THESE SUBSTANCES WERE INVOLVED
SHOULD A POISONING OCCUR
POISON CONTROL CENTER
EL 5-3100

Figure 1—Displays and exhibits can keep a community alerted to the danger of poisoning. This display was set up by the Union County (New Jersey) Pharmaceutical Society during National Pharmacy Week.

pharmacist as voluntary worker

Many of the local responsibilities of pharmacists are closely related and it is sometimes difficult to distinguish his role as an educator, consultant or a liaison person.

However, as difficult as it is to distinguish the responsibilities of a pharmacist, he should, if nothing else, definitely serve as liaison between the pharmaceutical society and the medical society and between the pharmaceutical society and local poison control center. In this position he can become aware of the accidental poisoning problem, arouse interest in the community and assist the medical profession and the poison control center in its activities.

In this liaison capacity, a pharmacist can assist in the actual development of a poison control center. First, *he can stimulate and motivate the desire to have a poison control center* by bringing the facts of accidental poisoning to the attention of the public and by working with the medical profession and the local hospital administration either through the interprofessional relations committee or individually with members of the medical profession.

Once this has been accomplished and the establishment of a poison control center becomes a reality, *the pharmacist can assist in the many details of organization*, such as preparing a list of drugs and antidotes, preparing a list of library and reference materials and assisting in the leg work and contact work which is most essential. In some instances, the local retail pharmacist can—and does—take the responsibility

Figure 2—Poison control centers are frequently underwritten by pharmaceutical associations. The center shown was donated by the Union County (New Jersey) Pharmaceutical Society.

to organize and co-ordinate the entire activity of establishing a center.

Through the local pharmaceutical society, the pharmacist may be in a position to underwrite the cost of establishing the center or he may only have a budget sufficient for the underwriting of specific items, such as the reference books, the cabinet or physical structure for housing the poison center's equipment or for the necessary drugs and antidotes. Based on our present knowledge, four county pharmaceutical societies in New Jersey (Mercer, Middlesex, Monmouth-Ocean and Union) have underwritten various phases in helping to establish and maintain poison control centers in their respective areas (*see Figure 2*). This type "liaison" work creates extremely good public relations with the poison control center and the medical profession and provides the personal satisfaction that arises out of assisting a community to become a better and more healthy place in which to live.

Retail pharmacists can participate as volunteer advisory members of a poison control committee, for assisting not only in the development stage but also in the continual operation of such centers. A retail pharmacist is an excellent person for this job because by the very nature of his livelihood he can feel the pulse of the community through his almost daily contact with its members. I know of no better equipped member in our modern community structure of today than the pharmacist to perpetuate interest in—and evaluate the feelings of a community toward—a local public health endeavor, such as a poison control center.

In furthering the role of the volunteer in his community relationships the pharmacist may, in certain circumstances, assist the work of a local poison control center by actually conducting the epidemiologic follow-up of cases of poisoning. This may entail a visit to the home of the "poisoned" person, or a telephone conversation in which certain predetermined information is sought. Some of the information which can be elicited during this follow-up is as follows:

Who was caring for the child at the time of the accidental poisoning?

Where was the substance that caused the poisoning found, in what room, where is the room?

What was the type of container which housed the poison, was it in an original container, did it have a safety closure, was it not in an original container, and if not, was it in a pop bottle, drinking glass, can, etc.?

Was the substance found in its usual place?

Was there a warning or caution on the original label?

These are just a few samples of questions that can be asked which are of tremendous help in formulating an educational program.

A retail pharmacist can assist in the preparation and distribution of material such as pamphlets and brochures. Many poison control centers need assistance in this endeavor and local pharmacists and their societies can co-sponsor this most worthwhile work.

Furthermore, pharmacists can take on the responsibility and act as a supply depot for poison control medications and antidotes; they can act as secretaries for local centers; they can function as "field" representatives and assist in many other endeavors. We have found that if a retail pharmacist displays an honest desire to assist the local poison control center, all he need do is present himself and his services are gratefully and sincerely accepted. Many facets of voluntary and liaison work can be assumed by the local retail pharmacist and those mentioned are but a few of the ways in which he can actively participate in a local poison control center.

summary

Pharmacists must assume a civic responsibility in their daily practice of pharmacy professionalism. They must be fully cognizant of the problem and extent of the accidental poisoning problem in their local area. They must be serious in their approach to the problem and make every effort to reduce the tragic number of cases occurring in the United States each day, each week, each month and each year.

They must re-evaluate their educational background and constantly learn to recognize the hidden dangers in the many newer pharmaceuticals, medications and the countless new household products appearing on the consumer market, and they must use this basic educational training to advise the consumer on the toxic potentialities of these modern products.

Pharmacists must constantly assume the role of educator to the general public, not only to their individual patrons but to the general community as well, through speeches, displays, reminders, local paper releases and radio spot announcements. They must assume more and more the role of consultant to the local medical society, local hospital, health department and poison control center. They must maintain knowledge of toxicities and antidotes to be readily available when someone requests this type of information. They must be prepared to become a liaison officer among the many outlets of public health and in this role they must serve the pharmaceutical society, the medical society, the hospital and the poison control center.

Last of all, pharmacists must assume a voluntary worker position with all public health agencies. Combining their professional responsibilities with their educational training, pharmacists become an integral part in the prevention of accidental poisoning and should rightly assume the role of an educator, consultant, liaison and volunteer in poison control prevention and educational programs throughout the country.

Let us not forget that people look to pharmacists for—and assume that pharmacy, as one of the health professions, will offer—these services. ●

cabinet and antidotes

A cabinet recommended by the Wisconsin poison control center along with a list of injectables and prepackaged antidotes and including two textbooks can be obtained for about $175. The cabinet costs $57.50 f.o.b. Cape Girardeau, Missouri. The listed antidotes cost approximately $80 and the books, costing about $21.75, are *Clinical Toxicology of Commercial Products* by Gleason, Gosselin and Hodge and *Handbook of Emergency Toxicology* by Sidney Kaye. Further information about the Wisconsin poison control cabinet can be obtained from Richard S. Strommen, University of Wisconsin, Extension Services in Pharmacy, Madison, Wisconsin.

by Robert Simons, Jr.

role of the **hospital pharmacist** in poison control

The hospital pharmacist is ideally situated to perform a great public service by helping to organize and manage poison control centers. Most poison treatment centers and many poison information centers are set up in hospitals. Therefore, the logical person to maintain these centers is the hospital pharmacist who is qualified to set up and maintain the antidotes needed for the emergency treatment of the ever-increasing number of accidental poisonings.

The National Clearinghouse for Poison Control Centers has noted that a poison control center consists of a poison treatment center and a poison information center combined. Each hospital with a pharmacy should have a poison treatment center which should be co-ordinated with the local poison control center. Likewise every poison control center should have a hospital pharmacist on its committee. If there is not a hospital pharmacist active on the local center's committee then it's time something was done about it. How a control center can truly function without a pharmacist, I do not know.

Let us analyze the role of the hospital pharmacist—first, in establishing treatment facilities or a treatment center within the hospital and, second, in assisting the staff and providing informational services in those hospitals where centers are already established. To do this we should be familiar with the various functions of a poison control center and how a hospital pharmacist fits into each one. These functions may include information, treatment, publicity, education, prevention and follow-up of treatment and/or research.

Even if a hospital doesn't have a poison control center, the hospital pharmacist has a recognized duty in the maintenance of the nearest center. The information service has to be continuous 24 hours a day. The hospital pharmacist should contact the chairman and offer his services. He should also take a turn at answering the telephone and be an active member.

directions to pharmacist taking telephone calls for emergency poison information

I. Call from physicians

a. Give complete information, using pharmacological data available in the service's library.

b. Do not depend on memory. Check all information with current publications.

c. Fill in log.

II. Calls from lay people

a. Calm the person. Reassure him.

b. Give temporary emergency information as is common in lay literature. This should never be more than immediate emergency measures; e.g., in case of lye burn, flush area with dilute vinegar solution and wash with large amounts of water.

c. Inform patient to call his doctor or to go to nearest hospital and to take the container with him.

d. Advise the patient that the center will follow up the call to doctor or hospital.

The hospital pharmacist can also be an invaluable aid in keeping the cardex system up-to-date. This is one activity that will never end. The hospital pharmacist's knowledge and acquaintance with drugs and their actions makes him a needed member of the center. He can add current editions to its reference library and file articles, abstracts and other pertinent literature on poisonings for the center.

A pharmacist with a hospital which has a poison control center should suggest that the pharmacy or a room adjacent to the pharmacy be used as the physical layout for the maintenance of the center, that a private phone for the center be set up and that the pharmacy personnel answer telephone calls during the working hours of the pharmacy. This would mean that the hospital pharmacy would take the load off the pediatric or medical resident who would handle all calls after hours. The cardex files of treatment and product cards, the reference library and the log of incoming calls would all be housed in the pharmacy.

A 1951 graduate of the Philadelphia College of Pharmacy and Science, Robert Simons, Jr., is director of pharmacy service at the Memorial Hospital, Wilmington, Delaware. Before assuming that position in 1954, Simons was assistant chief pharmacist at Delaware Hospital, Wilmington. He is a member of the American Society of Hospital Pharmacists committee on accidental poisoning and of the Delaware poison information service committee.

Remember, the information service of a center should be—and is—mainly directed to the physician. It should be a service to the profession first and then to the public. It is the pediatrician in his office who needs the service. He doesn't know what is in all potential poisons. He is not a toxicologist, pharmacologist, pharmacognosist and biochemist all rolled up in one. He needs the poison center's help. As a consultant to the physician on drugs and medications, the hospital pharmacist is the proper one to maintain this information service.

The treatment program of a poison control center is a main function. Every hospital should have a poison treatment center and all treatment centers, whether at control centers or in hospitals, should include antidotes and equipment for treatment. Who maintains these, replenishes the stock when supplies are used and labels all the stock?

It is the responsibility of the hospital pharmacist as much as it is his duty to keep other drugs stocked in the emergency department. The antidotes and equipment should be kept in a separate place in the emergency treatment department of the hospital so that they can be easily obtained when needed. If it hasn't been done, the pharmacist should make out a list of antidotes and another of the equipment to be used and present them to the poison control committee. These two lists are of the greatest importance in getting recognition by the poison control center (*see Tables I and II*).

Table I

Delaware Poison Information Service List of Antidotes

Acetic acid 5% solution (1000 ml.)
Aminophylline I.V. 3 3/4 gr. (2 ampuls)
Ammonia aromatic spirits (180 ml.)
Amobarbital sodium injection 3 3/4 gr. (2 ampuls)
Amphetamine sulfate 20 mg./ml. (6 ampuls)
Amyl nitrite pearles (12)
Apomorphine H.T.'s—in narcotic cabinet
Atropine sulfate injection 1/150 gr./ml. (20 ml. vial)

Brewer's yeast tablets (60)

Caffeine and sodium benzoate injection (2 ampuls)
Calcium gluconate 1 gm. (2 ampuls)
Calcium lacate solution 2% (1000 ml.)
Castor oil (180 ml.)
Cottonseed oil (180 ml.)

Dextrose 50% 50 ml. (2 ampuls)
Dextrose 5% (1000 ml.)
Dextrose 5% in normal saline solution (1000 ml.)
Digoxin injection 0.5 mg. (2 ampuls)
Dimercaprol (BAL) 10% in oil 5 ml. (2 ampuls)
Diphenhydramine 10 mg./ml. 10 ml. (1 vial)

Edathamil calcium disodium 1 gm. (3 ampuls)
Ephedrine sulfate injection 25 mg. (2 ampuls)
Epinephrine HCl. 1:1000 injection 1 ml. (3 ampuls)
Ether (1/4 lb.)

Iodine tincture

Levophed ampuls

Snake antivenin
Spider antivenin
Lime water (1000 ml.)

Magnesium oxide solution 2.5% (1000 ml.)
Methylene blue injection 1% 10 ml. (2 ampuls)

Milk, evaporated (2 cans)
Morphine sulfate hypodermic tablets—in narcotic cabinet

Nalline—in narcotic cabinet
Neostigmin 1:2000 (3 ampuls)
Nikethamide injection 25% 1.5 ml. (2 ampuls)

Olive oil (180 ml.)

Pentamethylenteltrazol (Metrazol) 100 mg.
Phenobarbital sodium injection 2 gr. (3 ampuls)
Picrotoxin injection 3 mg. 1 ml. (6 ampuls)
Pilocarpine tablets and injection
Potassium permanganate solution 1:10,000 (1000 ml.)
Procaineamide injection 100 mg./ml. 10 ml. (1 vial)

Quinidine sulfate (3 ampuls)

Sodium bicarbonate powder 250 gm.
Sodium bicarbonate solution 5% (1000 ml.)
Sodium chloride (250 gm.)
Sodium nitrite injection
Sodium sulfate crystals
Sodium thiosulfate injection 0.5 gm. (3 ampuls)
Sodium thiosulfate solution 1% (1000 ml.)
Starch solution 8% (1000 ml.)

Tincture of opium, camphorated (180 ml.)

Vitamin K injection 72 mg. (3 ampuls)
Vitamin K_1 injection 50 mg. 1 ml. (3 ampuls)

Water for injection 30 ml. (3 vials)

Shock Mixture:
Sodium chloride 1 dram
Sodium bicarbonate 1/2 dram
Water qs. ad 1000 ml.

Universal Antidote:

Activated Charcoal	2 p.
MgO	1 p.
Tannic acid	1 p.

Maintaining the treatment antidotes and equipment is most important but there is one other item that is often forgotten. Equally important is the labelling of your antidotes. At the Delaware Poison Information Service, Wilmington, Delaware, we have made a set of gummed labels of the most common antidotes giving their use and dosage. These are pasted on our treatment room antidote containers. This labelling is an important contribution to the treatment program.

A hospital pharmacist can be of great assistance in tabulating data on local poisoning incidents. He should have the emergency department of his hospital send to him a copy of the treatment charts of all poison cases entering the hospital. The information from these charts can be transferred to the log for tabulation in periodic reports. It has been said that for every accidental poisoning incident reported in statistics, there are 150 incidents not reported. This data for educational and preventive programs is priceless.

Another service that the hospital pharmacist can perform under the treatment program is to prepackage and distribute the universal antidote to all pediatricians in the local area. A 250-ml. wide-mouth bottle gives the physician enough for two emergencies.

As for the publicity program of the center, the pharmacist can suggest many ways and become active in some. For instance, the center's services can be publicized by distributing monthly morbidity reports or other state board of health publications. Announcements of the service should be made at various staff and professional meetings and an article in the local medical journal is a valuable medium of publicity.

An exhibit depicting the service can be displayed at local conventions or seminars. The exhibit is particularly

Table II

Emergency Room Equipment Check List

EQUIPMENT	NUMBER ADVISED
Stomach tube, 12 sizes	1 each
Levine tube, numbers 10,12, 14	1 each
Catheter, sterile, numbers 8, 10, 12, 20	1 each
Polyethylene tubing, numbers 18, 19	6 ft. each
Tongue holder, padded	1
Syringes, sterile, 2 cc, 10 cc, 50 cc	3 each
Hypodermic needles, gauges 20, 24, 25	5 each
Intravenous administration set, sterile	2
Spinal puncture set, sterile	1
Stethoscope	1
Percussion hammer	1
Sphygmomamometer	1
Clinical thermometers, rectal	2
Swabs, sterile	10
Dressings, sterile, 2" × 2", 4" × 4"	1 can each
Adhesive tape, 1/2 in., 1 in., 2 in.	1 roll each
Flashlight	1
Gloves, sterile	3 pair
Oxygen tank, small, with bag and masks, infant, child	1 each
Pharyngeal airway, sizes 0, 1, 2, 3	1 each
Suction apparatus, electric	1
Glass jars, 500 cc, screw cap	3
Test tubes, sterile, with and without oxalate	5 each
Laryngoscope, infant, child and adult blades	1 each
Tracheotomy set, sterile	1
Endotracheal tubes, sizes 0, 1, 2, 3, 4, 5, 6, 7	1 each
Funnel	1
Sheet and safety pins	6
Tourniquets, infant, child and adult	1 each
Cut down tray with suitable I.V. catheters	1
Airways, infant and adult	2 each

appropriate and there are several types of poison exhibits available. The Delaware Poison Information Service will make available on loan an exhibit depicting the ever-rising balloon of accidental poisonings being held down by the large chain representing the poison control center and by the seven other chains representing the health groups which make up the poison control committee. Inquiries about the availability of this exhibit should be directed to the author.

Press releases and radio spot announcements are excellent ways to inform the public of the center's activities. Newspaper reports concerning current poisoning incidents tend to keep the value of the service current and re-inforce its educational potentials. The telephone number of the service should be placed in the local telephone directory under "*Emergency Calls*" and under "*Poisons*" in the classified pages. The local telephone company may be willing to print telephone stickers to be distributed as a public service. Service clubs may contribute to the effort by printing telephone stickers as a civic project. These stickers can be distributed by local retail pharmacists.

A speaker's bureau to present the problem of accidental poisoning to the public is an excellent approach to community education. All members of the center's committee will find it an interesting and educational experience.

The publicity program should be a continuous function and can be broadened. The local hospital pharmacists' association would be an excellent group to develop a speaker's bureau. The Philadelphia Hospital Pharmacists' Association, for instance, is now engaged in this service.

Every hospital pharmacist has a definite place in the center's educational program. The educational program, in certain respects, will go hand-in-hand with the publicity program. Again, this program can be divided into professional and public phases. The medical profession is interested in case history data, statistical data and treatment instruction regarding poisonings. Case data should pertain to unusual incidents and their outcome, information on new products that may be unique or perhaps reports from the National Clearinghouse.

Statistics can be compiled from the log kept at the center and other data received from co-operating hospital emergency rooms. Newer treatments or antidotes for potential poisons should also be discussed with physicians. Treatments and their outcome should be discussed in conferences and staff meetings by the pediatric resident of the committee as an inservice educational program. This information could also be sent to physicians in monthly letters or as an enclosure sent by the hospitals, medical associations or health departments.

Available on loan is the above poison information exhibit. The Delaware Poison Information Service provides the exhibit for display at conventions or seminars. It depicts the co-operation between the health groups in working toward the control of accidental poisonings.

An educational program should also be directed to local retail and hospital pharmacists. A poison control committee for the local hospital and retail pharmacists' association could be formed. Through such a committee, pharmacists can be educated on poisoning with the same informative data and statistics sent to physicians. Literature can also be distributed to retail pharmacies and hospitals to hand out to the public or for use by the pharmacists in discussing poisonings with physicians.

The nursing profession should not be forgotten. An educational program directed to the nurse in training is needed. Lectures or discussions on accidental poisonings should be included for nursing groups, professional and preprofessional, as well as staff nurses in hospitals. And remember, the visiting nurses are essential in the follow-up of the patient after treatment.

In a preventive program, there are three major areas of concern—the home, the patient and the poison or the environment, the host and the agent.

Education in all of these areas is vital. Ignorance and carelessness on the part of parents in handling and storing medication and potentially dangerous household items should be stressed. Usually, it is a child who is the host, so remember he is an experimenter, an imitator, an investigator and a vacuum cleaner all rolled into one. Attractiveness and availability of the specific agent are important in making the potential agent more dangerous.

The speaker's bureau will be a valuable asset in this program since it will contact service clubs, parent-teachers associations and other groups who are interested in poison control or whose interest can be stimulated. Brochures and literature distributed at meetings will serve to make persons aware of potential home poisoning hazards.

The follow-up of the treatment program will probably not involve the hospital pharmacist. The follow-up should serve to shed light on the existence of other health problems in a family group.

In addition to gathering data regarding cause and other factors of a poison case, procedures for a follow-up should be worked out in consultation with the hospital administration, the visiting nurse association, the public health nurse, and the hospital's social service department. A good working arrangement in any specific area should be adopted to meet local needs. The hospital administrator is a key person in this area. An advisory committee made up of members of participating organizations for follow-up poison cases is an effective way to approach this area.

The American Academy of Pediatrics, state boards of health, municipal safety committees and various other groups have long set the pace for setting up so-called "poison centers" in our country, but where is hospital pharmacy? Hospital pharmacy is needed to perform a great public service by helping to organize and manage poison control centers. It is an opportunity for those who wish to give a much needed service to the community and to the public. ■

by Albert L. Picchioni and Willis R. Brewer

role of the **pharmaceutical educator** in poison* control

Studies have repeatedly shown that accidental poisoning usually takes place in and around the home and usually involves preschool-aged children. Furthermore, in most cases these accidents are preventable. They happen because of improper storage, handling and disposal of chemical agents, usually through the negligence, carelessness or ignorance of adults.

Especially significant is the alarming frequency with which drugs are involved in these poisoning incidents. In Arizona, for example, 1,895 cases of poisoning were reported in the two-year period of 1958 and 1959 and 53 percent of these cases involved medicinal agents. Recent reports from other areas[1,2,3] also testify to the disproportionately high incidence of poisonings by drugs which represent a relatively small percentage of the chemical agents commercially available.

As both the number of children and household chemical agents increase, it is apparent that measures must be taken to keep the two in proper relationship to each other. The most important step in the campaign to reduce the number of serious or fatal poisonings from chemicals in the home involves prevention through education for this is the basic means of avoiding these tragedies. The pharmacists' most valuable contribution in poison control is participation in the public education program directed towards reducing the incidence of accidental poisoning in his community. The opportunity for the pharmacist to engage in such activities was ably stated by a pharmaceutical educator who wrote,

> **The pharmacist would appear to be strategically located with respect to the implementation of public (health) programs, particularly those of a preventive nature. He is the first point of contact with the public, because people come to him without prior appointment in the normal course of their business or shopping activities. He contacts far more people per day, week, month or year than any other private practitioner of the health professions.[4]**

The pharmacist has the opportunity—and, indeed, the responsibility—to participate in the prevention of poisoning especially as it concerns drugs and related chemicals.

The other aspect of poison control is the treatment of poisoning when it occurs. In this regard, the educational background of the pharmacist should make him competent to provide toxicological information concerning drugs and other chemical agents. It should also make him capable of advising lay persons in emergency first aid measures for poisoning. Other authors in this issue of the JOURNAL and several other publications in pharmaceutical literature[5–10] discuss in detail the manner in which the pharmacist can assist in the above poison control activities.

It would seem, then, that the pharmaceutical educator fulfills an important role in poison control by contributing to the educational background of the pharmacy student which will prepare him to participate effectively in community poison control activities. In addition to the above responsibility, it would appear that the educator could well assume an active role in poison control in the community served by his institution.

responsibility to the community

As a person engaged daily in pursuits representative of two professions, education and pharmacy, the teacher or administrator in a school of pharmacy may very well have a double share of obligation to serve in the interest of his community on projects for which he is eminently well qualified.

poison control centers

The faculty of the college of pharmacy is in an excellent position to offer valuable assistance in the establishment and maintenance of a community poisoning control center where such a service does not exist. It is of interest to note that more than 20 colleges of pharmacy are located in communities where there is no poison control center. In recent years, pharmaceutical educators in a number of colleges of pharmacy have become active in this work, including the authors who have been involved in the establishment of poison control centers in Arizona.

This particular activity in Arizona illustrates the confidence that the medical profession placed in the college of pharmacy and its faculty by an invitation to participate in the establishment and maintenance of a poison control program. In 1957, the faculty of the University of Arizona college of pharmacy assisted the Arizona chapter of the American Academy of Pediatrics in formulation of a plan for the development of a statewide poison control program. The plan adopted consisted of the establishment of poison control treatment centers located in the emergency wards of major hospitals in Arizona and a poison control information center in the college of pharmacy, the function of which was to co-ordinate activities of the hospital poison control treatment centers and to provide them with toxicological information. The plan was approved by the Arizona Medical Association at its 1957 annual meeting and was recognized by the Arizona State Department of Health as the Arizona Poison Control Program. Support of this program was received from the Arizona Pharmaceutical Association.

A poison control committee which included two members of the faculty of the college of pharmacy was appointed by the Arizona Medical As-

* While the term "poison control" is used throughout the article to conform with common usage and to be consistent with the other articles in THIS JOURNAL, the authors prefer the use of the term "poisoning." They contend that "we are not promoting the control of poisons. We are working toward the control of poisonings."

sociation to administer the plan. Service under this plan began in June, 1957, with one hospital poison control treatment center. By the end of the summer, there were 12 such centers served by the college of pharmacy's poison control information unit. At present there are 19 scattered throughout Arizona in strategically located hospitals providing round-the-clock service for the citizens of the state.

Since establishment of the Arizona Poison Control Program, the faculty of the college of pharmacy has prepared a file containing 600 poison information cards providing toxicological information on various chemical agents, toxic ornamental plants and animal venoms. A set of these cards was made available for each of the hospital poison control treatment centers.

The faculty of the college of pharmacy regularly compiles monthly statistics of poisoning cases reported by the hospital poison control treatment centers on the Poison Report Forms (PHS-2805–1) of the National Clearinghouse for Poison Control Centers. The statistics are also reported by the college of pharmacy in the form of a monthly news bulletin which presents current toxicological notes of interest. Information in this report is published in *Arizona Medicine*, the official journal of the Arizona Medical Association.

Although the Arizona hospital poison control treatment centers receive the largest number of telephone requests for toxicological information, the poison control information center in the college of pharmacy receives numerous telephone inquiries each week from physicians, pharmacists and nurses in various parts of the state and from lay persons seeking emergency first aid measures in poisoning. Two members of the faculty of the college of pharmacy are "on call" 24 hours daily to answer these telephone inquiries. It is of interest to note that from four to eight of these calls are received each week during the night hours by these faculty members.

The consultation and toxicological information service provided to the college of pharmacy's poison control information center by the National Clearinghouse for Poison Control Centers has been of great value. Since the college of pharmacy is actively engaged in a poison control program officially recognized by the Arizona State Department of Health and the Arizona Medical Association, it has received the file of poison information cards prepared by the National Clearinghouse. These cards present toxicological information not readily available elsewhere on ingredients of trade-name household chemical products. The monthly bulletin of the National Clearinghouse summarizes current toxicological information which has been useful in many instances in the poisoning control information center as well as in teaching. This bulletin is available to all colleges of pharmacy.[11]

The fruitful experiences of the authors with the Arizona Poison Control Program and, no doubt, of other pharmaceutical educators participating in similar activities testify to their contention that the college of pharmacy and its faculty can render a valuable service to the community through association with the poison control center. This participation is also of value to the college of pharmacy, since it possesses educational characteristics and creates an atmosphere which is effective in motivating pharmacy students to learn the principles of poison control.

Approximately 50 colleges of pharmacy are located in communities where there are established poison control centers. In these cases, it would not appear desirable or advisable for a college of pharmacy to devote its efforts to establishing a competing poison control center in the community. Instead the college of pharmacy should assist the established center in maintaining the highest possible efficiency in the overall program of prevention and treatment of poisoning. The educator in the college of pharmacy could contribute significantly as a consultant in these centers, especially with regard to the toxicology of chemical constituents of household products as well as poisonous plants and animal venoms.

A most significant contribution to all poison control centers can be made by the pharmaceutical educator who engages in toxicological research. The authors have found that these centers repeatedly stress the need for information on the toxicity of ornamental plants growing in the community. In many instances the potential toxicity of these plants has not been determined. Toxicological studies in animals would provide a useful indication of possible toxic effects in man.

Since there are only a few specific and effective antidotes for chemical agents, there is a need for more research directed towards finding more efficient antagonists for the more toxic and frequently used chemical agents. In this regard, Cann and associates[1] have stated that more research is necessary involving the pathophysiology produced by toxic substances so that rational and efficient methods of therapy can be instituted. These workers also point out the need for the development of more inexpensive, less time-consuming analysis procedures for the detection of the more commonly involved poisonous substances.

Directing the poison control program for the state of Arizona is Albert L. Picchioni, professor of pharmacology at the University of Arizona. He also serves on the committee on accidental poisoning of the American Society of Hospital Pharmacists. A former fellow of the American Foundation for Pharmaceutical Education, he is also a member of the American Association for Poison Control Centers. Dr. Picchioni completed his undergraduate work at Montana State University and went on to receive his graduate degrees from Purdue University.

prevention of poisoning

The importance of prevention of accidental poisoning through public education has already been emphasized. Jacobziner[2] has pointed out that the success of this activity depends on the collective efforts of the entire community—physician, pharmacist, public health worker, nurse, pharmacologist, law enforcement officer, educator, etc.

The pharmaceutical educator performs a valuable public service by

In addition to serving as dean of the University of Arizona's college of pharmacy, Willis R. Brewer acts as consultant to the poisoning control committee of the Arizona Medical Association. He also finds time to devote to research on medicinal plants of the southwestern U.S. and Mexico. Dr. Brewer received his BS in pharmacy at South Dakota State College and was granted a PhD in 1948 by the Ohio State University.

appearing before groups, such as PTA, church and service club organizations, to tell about the public health problem of poisoning and the means by which it can be prevented.

Perhaps the most efficient means for educating a large segment of the public is through the medium of local newspaper, radio and television. One method by which these agencies may be stimulated to co-operate effectively in the community poisoning prevention campaign is to provide them frequently with news items of local interest concerning poisoning and poison control. The authors have been successful in obtaining statewide coverage in Arizona at least once each month by means of the Poison Control Information Center's news bulletin. This bulletin is distributed monthly through the University of Arizona press bureau to each newspaper, television and radio station in Arizona.

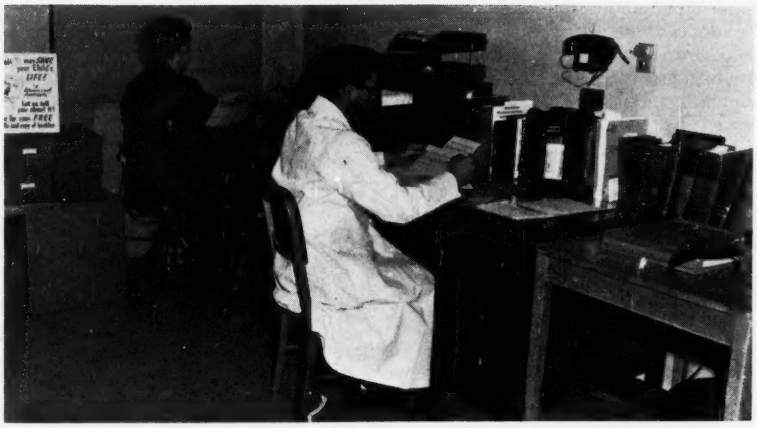
The most effective co-operation is secured by inclusion of specific items on poisoning which concern the citizens of the state. Notable among these are the monthly statistics of poisoning in Arizona presenting such information as the number of poisoning cases, age distribution, causative agents and time of day of poisoning. Other information is included to emphasize the prevention aspect of poisoning. For example, precautionary measures are suggested concerning seasonal poisoning hazards such as carbon monoxide and antifreeze in the winter, toxic Christmas decorations during the holiday season and poisonous ornamental plants in the spring and summer.

Another avenue of service for the educator is the development of information needed for the promotion of legislation beneficial in poison prevention. As noted above, numerous opportunities exist for the teacher to serve personally in the community effort to control poisoning.

responsibility to students and practicing pharmacists

Pharmacy educators should feel obligated to render needed services such as those already described. They should also stimulate their students to consider themselves under similar obligations while as students and as practicing pharmacists. Three factors enhance the future pharmacist's opportunities to serve in this area—

- Greater need for poison control efforts due to the increasing creativity of the manufacturers of myriad new products capable of producing harmful effects when misused,
- A continuing deficiency in label laws in terms of safety information on products used in the home, and,



Checking reports and information to make certain there are no errors in the cards for filing are pharmacologists at the Arizona Poison Control Information Center.

- Improved qualifications of the future pharmacist to render a better service to his community as advanced programs of pharmaceutical education place greater emphasis on basic science, humanizing and higher level professional courses.

Each faculty member in the pharmacy college should contribute to the educational experience in such a way that the student will be alert to his future community's needs for information on poison prevention measures and its needs for efficient organization to treat accidental poisoning cases. The major responsibility for this kind of educational experience may be delegated to teachers of pharmacology and public health but each of the other teachers should contribute from his area of specialty.

The dispensing teacher, for example, may emphasize the importance of using protective packaging such as safety closure vials and prescription bottles recently made available in several ingenious forms. He should likewise stress the importance of caution labelling on *all* potentially poisonous prepackaged or compounded medications and other household products sold by the pharmacy.

Specifically, the use of a label advising the customer to "Keep Out of Reach of Children" should be affixed to all such containers. Proper methods of safe administration, storage and disposal of these products and the conveyance of this information to the customer are among the educational responsibilities of the general pharmacy or dispensing teacher.

The pharmacology-toxicology teacher has a great responsibility in the teaching of toxicology of drugs and other chemicals with respect to symptoms, antidotes and supportive treatment.

The pharmacognosy teacher and the pharmaceutical chemistry teacher should, through close co-operation, be able to present without excessive duplication the basic facts on the chemical and physical properties of medicinal and nonmedicinal products of mineral and biological origin. These teachers should acquaint their students with the typical identity and nomenclature problems encountered in tracking down the offending agent in poisoning cases.

The teacher whose responsibilities include first aid instruction for the pharmacy student has an exceptional opportunity to provide practical, problem-solving information that will assist the pharmacist in advising lay persons on what to do and what not to do in a poisoning emergency.

Opportunities for the pharmacy administration teacher to lend his support to this campaign are perhaps less obvious than in the other areas but are, nevertheless, highly significant. The public and professional prestige of the pharmacist is important among the topics covered by the administration teacher. There is probably no other area of public service with greater value to the pharmacist in terms of community gratitude and professional prestige than dedicated participation in poison control work. This point can be presented by the administration teacher with proper remarks concerning ethical and moral motivation for public service.

The pharmacy administration teacher could also acquaint his students with the value of interpreting statistics on poisoning cases in the community as an aid in educational and public relations programs. The proper avenues for promoting legislation beneficial in poison control are also within the domain of this teacher.

All who engage in teaching the future

pharmacist must stress the significance of maintaining professional competence as the years roll by. The maintenance of a current library to provide information for handling poisoning cases should be a primary recommendation. Students should be urged to become active in educational programs in their home communities through such opportunities as PTA, high school student groups and civic club meetings as soon as they are qualified—even before graduation.

Such experiences are highly rewarding to students; they may develop a real interest, as well as self-confidence, in their ability to participate in poison control activities. Such participation early in the professional career may be attended with a feeling of personal satisfaction and may also be a source of stimulation to maintain competence in later years by attending refresher courses, seminars and other media of continuing education which pharmaceutical educators seek to present as part of their professional obligations.

Other students in the community may also be influenced by the pharmaceutical educator to become active in some phase of poison control work. College students in the allied health sciences or those preparing for teaching in health education should become familiar with the operation of this program.

summary

Though pharmacy has included first-aid and toxicology courses in its educational background for many decades, the need for greater emphasis on poison control education in the curriculum has risen to new prominence in the current decade. This area of service promises to be of greater significance in the future practice of pharmacy and, therefore, demands immediate attention from pharmaceutical educators as a field of contemporary personal activity as well as an avenue of instruction for the preparedness of the profession to meet its obligations to humanity in the years that lie ahead.

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labels, closures and cabinets

Generations of Americans have observed the skull and crossbones on labels of poisonous substances but this has not completely prevented accidental poisoning from these substances. On occasion, these warning insignia even may have led to the choice of these items for suicidal purposes. Nevertheless, effective warning statements can prevent many accidental poisonings, particularly poisoning by drugs.

Early attempts were made to have bottle closures that rattled or rang when moved. These might have prevented cases of accidental poisoning by befuddled insomniacs who had already taken their "sleeping potion." Glowing labels might have helped some of those who selected the bottle that "felt right" in the dark.

closures

Recent attempts to produce safe closures followed the high incidence of aspirin poisonings in children. A metal container known as the "Kidipruf" for pills, tablets, or capsules was marketed in England by Clinical Products, Ltd. This used a version of the common metal closure for gallon cans, requiring pressure in the center of the closure to snap open the pronged edges. A child-proof "U-Press-It" closure was adopted by Abbott for its Dulcet children's aspirin in 1955.

A safety attachment for aspirin bottles, which includes movable disks and puzzle combinations, has been devised by R. Cohen, *J. Am. Med. Assn.*, **171,** 1102 (Oct. 24, 1959). A combination of interlocking outer shell and inner cap for containers of liquids as well as of capsules or tablets has been developed by the Brockway Glass Company.

A study of three types of closures, reported by J.M. Arena, *J. Am. Med. Assn.*, **169,** 1187 (Mar. 14, 1959), indicated that the safety closure of choice is a plastic press-on cap with a "bead" opening on the bottle neck for adult "thumb-off" removal. This type of closure is now used on some containers of pediatric dosage forms, particularly aspirin (*see picture on page* 169). The top of the closure and the container label bear the statement, "Keep bottle out of children's reach." Since small children cannot differentiate between containers for pediatric and adult dosage forms, it would be practical to extend the use of safety closures to all containers kept in the home.

labels

Different schemes are used to identify industrial containers. One firm[1] utilizes different colors: black letters on red (**flammable**) on bottles of flammable liquid; black letters on yellow (**corrosive**) for bottles of nonflammable liquid which may cause severe damage to living tissue (**acid** or **alkali**); red letters on white (**poison**) on packages of solids and liquids which constitute a known hazard to health through toxicity by oral intake, by inhalation or by absorption through contact with the skin; black cap with no lettering for innocuous materials.

The AMA committee on toxicology and the Manufacturing Chemists Association are responsible for separate bills now before Congress. These would require warnings on the labels of all products containing hazardous chemicals. A drug warning amendment to the food and drug law—as part of the pending hazardous chemicals labelling law—ran into opposition from both proprietary and pharmaceutical manufacturers because of a proposed provision requiring the inclusion of "first aid treatment" instructions in labelling.

According to *FDC Reports*, **21,** 22 (Dec. 21, 1959), drug industry spokesmen, meeting with Deputy Food and Drug Commissioner John L. Harvey, expressed opposition to the so-called "antidote" labelling requirement. Under the proposed amendment to the drug warning provision of the existing law, drug labels would also have to warn users "against a substantial and reasonably foreseeable risk of causing accidental injury." Proposals for amending the drug and cosmetic sections of the existing food and drug law have been made in lieu of including drug and cosmetic products under the new hazardous chemicals statute.

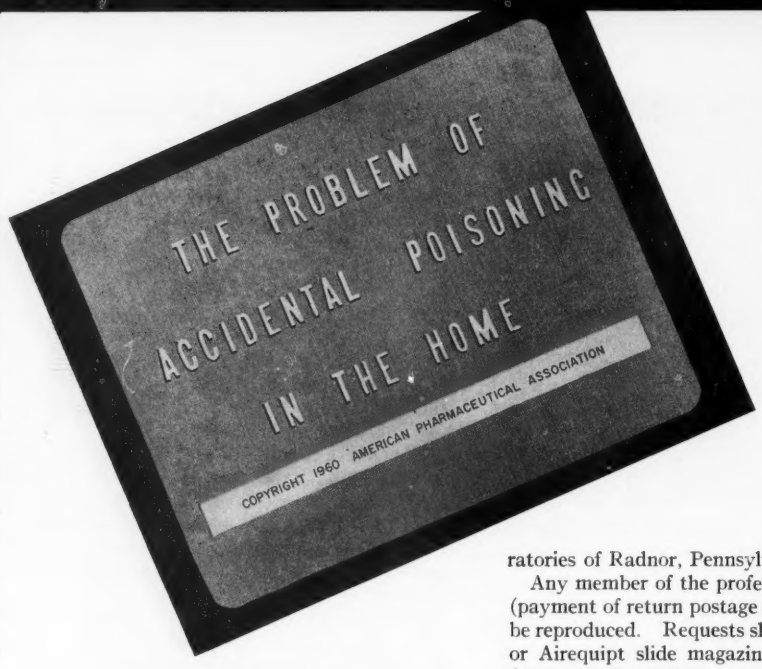
To make certain that the "Keep-out - of - reach - of - children" warning, recommended by FDA for drug products, will be most useful, FDA now requires the statement to appear "on the label" instead of "in the labelling." This will insure its appearance on the immediate container rather than in the package insert.

cabinets

There has been a growing awareness of the need for a medicine cabinet with a special locking device which can be easily opened by adults but which would be practically impossible for a child under five years old to open. A meeting to review the problem was called by William E. Kramer, secretary of the Plumbing Fixture Manufacturers Association, for February 17 at the National Housing Center in Wash-

(*Continued on page 153*)

1. Hartman-Leddon Co., Philadelphia, Pa.



One morning recently a woman made a frantic, telephone call. "My child just ate some roach paste," she wailed.

by Joseph A. Desiderio

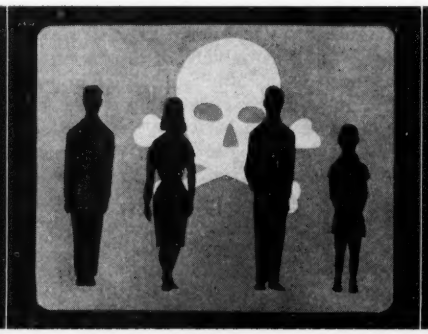
Giving dramatic emphasis to an increasingly serious problem and highlighting preventive measures is a slide-talk—"The Problem of Accidental Poisoning in the Home"—available exclusively from the AMERICAN PHARMACEUTICAL ASSOCIATION.

The series of 29 color slides (35-mm, 2 × 2) comes with an easily adaptable script, written by Joseph Desiderio in co-operation with Mark Kenyon of the Delaware State Board of Health, Emil Tiboni of the Department of Public Health and hospital pharmacists Herbert L. Flack, Joseph V. D'Ambola, Robert Simons, Jr., and James Smith. Wyeth Laboratories of Radnor, Pennsylvania, produced the slides and script.

Any member of the professional health team may obtain the slide-lecture on loan (payment of return postage is the only charge), but the set is not for sale and cannot be reproduced. Requests should indicate whether individual aluminum slide mounts or Airequipt slide magazines are desired. These requests should be sent to the AMERICAN PHARMACEUTICAL ASSOCIATION, Division of Communications, 2215 Constitution Avenue, N.W., Washington 7, D.C. A condensed version of the slide-talk follows.

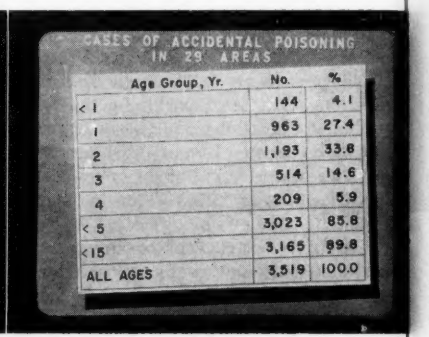
SLIDE 4

This could have been you. You would need help also. Recently a national survey made by the American Academy of Pediatrics revealed a startling fact. Pediatricians reported that accidental poisoning was the most common medical emergency among their young patients.



SLIDE 5

The National Safety Council reports that every day, on the average, four persons die accidentally by swallowing some poison at home. Of these four deaths, one is a child in the age group of five years and under.

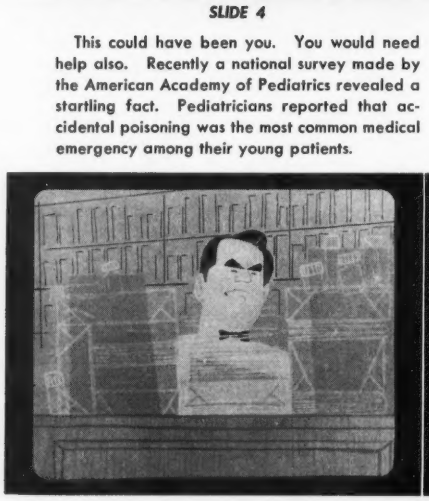


CASES OF ACCIDENTAL POISONING IN 29 AREAS

Age Group, Yr.	No.	%
< 1	144	4.1
1	963	27.4
2	1,193	33.8
3	514	14.6
4	209	5.9
< 5	3,023	85.8
<15	3,165	89.8
ALL AGES	3,519	100.0

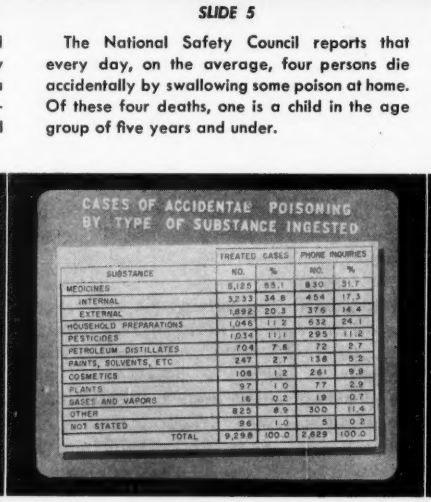
SLIDE 6

This chart shows the classifications of accidental poisoning from 29 poison centers throughout the nation. The number of accidental ingestions is 500 times the number of fatalities. The number of incidents of accidental poisoning is increasing yearly.



SLIDE 7

This slide shows the bewildered clerk in a store with the shelves full of new products. Today store shelves in family shopping centers offer an ever-increasing variety of cosmetics, medicines, detergents, cleaning, polishing agents, paints and solvents and numerous other products designed to make life simpler.

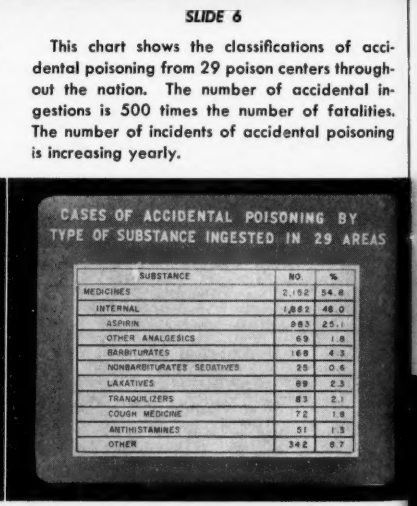


CASES OF ACCIDENTAL POISONING BY TYPE OF SUBSTANCE INGESTED

SUBSTANCE	TREATED CASES		PHONE INQUIRIES	
	NO.	%	NO.	%
MEDICINES	5,125	55.1	830	31.7
INTERNAL	3,233	34.8	454	17.3
EXTERNAL	1,892	20.3	376	14.4
HOUSEHOLD PREPARATIONS	1,045	11.2	632	24.1
PESTICIDES	1,034	11.1	295	11.2
PETROLEUM DISTILLATES	704	7.6	72	2.7
PAINTS, SOLVENTS, ETC	247	2.7	138	5.2
COSMETICS	108	1.2	261	9.8
PLANTS	97	1.0	77	2.9
GASES AND VAPORS	16	0.2	19	0.7
OTHER	825	8.9	300	11.4
NOT STATED	96	1.0	5	0.2
TOTAL	9,298	100.0	2,629	100.0

SLIDE 9

Here is the classification of substances involved in accidental poisonings. As you can see, the largest group is medicine. Other groups are household preparations, pesticides, petroleum distillates, paints and solvents, cosmetics, plants, gases and vapors.

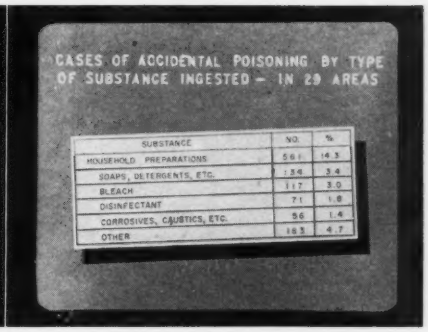


CASES OF ACCIDENTAL POISONING BY TYPE OF SUBSTANCE INGESTED IN 29 AREAS

SUBSTANCE	NO.	%
MEDICINES	2,192	54.8
INTERNAL	1,882	46.0
ASPIRIN	983	25.1
OTHER ANALGESICS	69	1.8
BARBITURATES	168	4.3
NONBARBITURATES SEDATIVES	25	0.6
LAXATIVES	89	2.3
TRANQUILIZERS	83	2.1
COUGH MEDICINE	72	1.9
ANTIHISTAMINES	51	1.3
OTHER	342	8.7

SLIDE 10

A breakdown of the kinds of medicines which have caused accidental poisoning is shown. As you can see, aspirin is in first place, followed by other analgesics, barbiturates, nonbarbiturate sedatives, laxatives, tranquilizers, cough medicines and antihistamines.


CASES OF ACCIDENTAL POISONING BY TYPE OF SUBSTANCE INGESTED – IN 29 AREAS
SUBSTANCE | NO. | %
HOUSEHOLD PREPARATIONS | 561 | 14.3
SOAPS, DETERGENTS, ETC. | 134 | 3.4
BLEACH | 117 | 3.0
DISINFECTANT | 71 | 1.8
CORROSIVES, CAUSTICS, ETC. | 56 | 1.4
OTHER | 183 | 4.7

SLIDE 12

Our so-called "jittery" age has brought about another bad practice, the taking of barbiturates, commonly called "sleeping pills." These drugs are taken either at bedtime to insure a good night's sleep or during the day by high-strung patients or hard driving business executives with misbehaving stomachs. These drugs play an important part in medicine when taken as prescribed but when they are left in reach of children, just a few of the capsules or tablets can bring tragic results. These drugs take second place in the poisoning of children.

SLIDE 13

Another habit we have acquired is the taking of laxatives and cathartics. These little sugar-coated pills are attractive to the curious child and he will usually consume a majority portion of a bottle—which can be dangerous.

Cough medicines can be toxic. A father had a prescription filled for a severe cough. The cough syrup contained codeine, which is an efficient cough sedative in the small dose prescribed. The father enjoyed a wonderful sleep and then rushed off to work leaving the cough syrup on the night table by his bed. That morning his only child, age three, drank half the bottle and died from an overdose of codeine.

Tranquilizers, also, can be dangerous. While a mother was busy feeding her baby, two other children, ages two and three, opened her purse and obtained a prescription container of reserpine. Between them they ingested 25 tablets. The children became stuporous and were rushed to the hospital where they were forced to vomit and had their stomachs washed out. Both, fortunately, made a complete recovery.

A recent addition to medicine has been the drugs for motion sickness o. sea sickness. These drugs also bring relief in nausea and vomiting of pregnancy. One mother carelessly left her purse within reach. Her child ate a handful of these drugs and died.

Most women today are concerned about their figures and want something to curb their appetites. Many drugs prescribed by a physician for this purpose contain amphetamine. Most of you have heard of this drug. It is safe when used as prescribed but when left in reach of children, terrible deaths can result.

Methyl salicylate, commonly known as oil of wintergreen, is known to most of you as a liniment. One child climbed up a chair to reach a bottle of liniment on a shelf and drank enough to cause a fatal accident. Oil of wintergreen is a dangerous poison.

SLIDE 14

Here are various household preparations which are potentially dangerous. Bleach, disinfectants and corrosives can all cause fatal mishaps. For example, lye is one of the most dreadful causes of poisoning in our children. Lye poisoning is extremely painful and, if not fatal, recovery is very slow. Worse yet, permanent damage is usually done to the throat and stomach. Lye is usually found in the form of drain cleaner or paint brush cleaner and is present in some cleaning preparations.

SLIDE 15

Pesticides found around the home are highly poisonous. Many of these contain extremely toxic substances, such as arsenic, phosphorous or strychnine. Rat poisons, ant poison and DDT can all cause death.

SLIDE 16

Petroleum distillates, such as kerosene, gasoline, mineral spirits and lighter fluids, are quite dangerous. Paints, varnishes and solvents are often left in reach of children, with serious mishaps resulting. Some plants are poisonous and some cosmetics contain toxic substances. Gases and vapors, such as carbon monoxide, can cause quick death.

SLIDE 17

To see what you are up against, here are several examples of accidental poisoning. While playing in the kitchen with an older sister, an 18-month old child ingested five ounces of a bottle of cleaning fluid which was stored under the kitchen sink. The child was found in a coma and taken immediately to the hospital emergency room where his stomach was washed out. He was sent home after regaining consciousness. A mother poured benzine in a soft drink bottle to use for removing stains from her coat. She left the bottle on the table in the kitchen while she took an older child to school. In the meantime, the youngest child, a three-year old girl, drank six ounces of the contents of the bottle. The child suffered from burning of the mouth and throat and diarrhea. She was taken to the hospital, had her stomach washed out and luckily recovered after several days. This particular example illustrates the danger of placing anything in a food or beverage container. About 75 percent of accidental poisonings occur where a substance is either out of its original container or out of its usual location in the house.

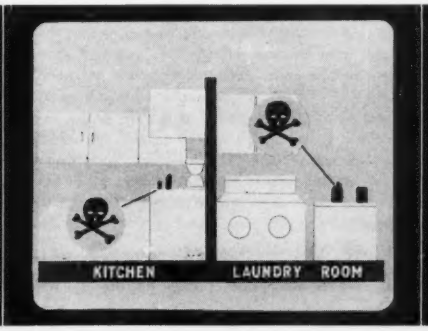
Since an ounce of prevention is worth a pound of cure and since one method for preventing accidental poisoning is to educate the parent to the dangers lurking in the average home, we advise room-to-room inventory with careful safeguards of all possible poisons.

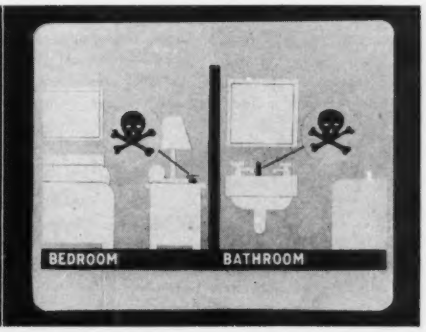
SLIDE 18

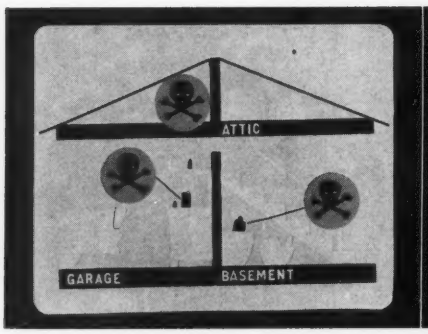
The kitchen and laundry are the rooms in which accidental poisoning frequently occurs. It may well be inconvenient to store often-used items out of reach, but statistics show that this inconvenience is necessary to safeguard the lives of our children.

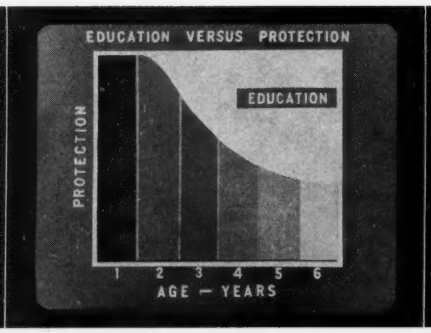
SLIDE 19

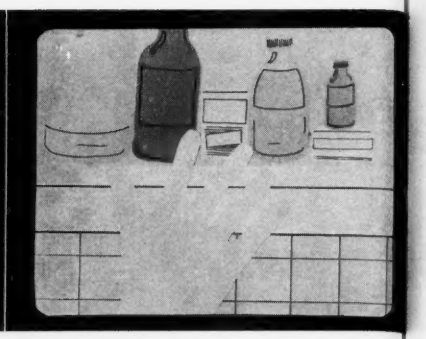
The bedroom and bathroom are ideal hunting grounds for the small child—medicines left on a bed table, a low bureau and the top of a toilet tank are quite attractive and easily obtained.











SLIDE 20

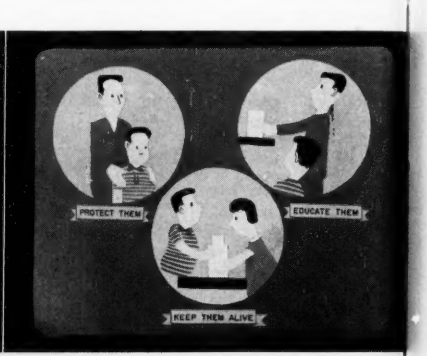
The attic, garage and basement are also danger spots. Moth balls, gasoline, paints and solvents should be stored in cabinets that are either locked or out of reach.

SLIDE 22

You can see, in protecting your child, that total protection is necessary for the first year. Even as your child learns you cannot afford to relax your vigilance.

SLIDE 23

Keep all drugs in the medicine cabinet out of reach of children. If it is possible for the children to climb up to the medicine cabinet, a lock should be put on the cabinet and the key stored in a place out of reach.



SLIDE 24

Discard all old and unknown prescriptions. Never keep an old prescription just because you did not use all of it. Many drugs lose their strength and potency with age and sometimes become very toxic. Raid your medicine cabinet at least twice a year.

SLIDE 25

Here are six rules you should follow: (1) Keep all drugs out of reach, (2) Destroy all old prescriptions, (3) Read all labels, (4) Observe caution statements, (5) Keep in original package, (6) Keep internal medications separated from external medications.

Keep all edible substances separate from inedible substances. Get down on your hands and knees and look around. You will be amazed at the potential hazards that exist in your home. You can educate yourself and your children on these dangers by attending meetings or talks on poisonings, such as this one, and telling your neighbors about these hazards. Inform your children constantly about the dangers of eating pills or drinking unknown liquids and of eating leaves, roots and unknown substances.

SLIDE 26

In case you cannot prevent the accident, then be ready for it. Post your poison information center number on your telephone together with the number of your physician or pediatrician and your pharmacist. In spite of all the warnings and cautions it is possible you might be faced with an emergency at some time. There are a few things you can do immediately. In a large proportion of instances, the fate of a person depends on what is done in the first 15 minutes after the ingestion of a toxic agent. Speed is of primary importance in poisoning. The first thing is to call your physician or poison information center at once. If you cannot reach either of these, rush the child to the nearest hospital. It is especially important to take the container of whatever the child ingested to the hospital or doctor's office. By doing this, the nature of the poison can be established and specific treatment can be administered. If a doctor cannot be contacted, if your poison information center is busy and if you are too far from a hospital, then a knowledge of first aid becomes very valuable. No poison center, however complete, and no program, however thorough, can completely control and prevent needless poisonings. The beginning and the end of any poison control program must be instituted with the individual home. Parents have the first and major responsibility to see that the potentially harmful materials do not find their way into the curious hands and mouths of young children. All the products named in this presentation should be placed in a safe place, inaccessible to children. Young children need constant protection. Education by your good example will help to avoid the tragic toll of accidental poisonings. Child safety is your responsibility.

SLIDE 27

Protect them—educate them—to keep them alive.

Author of the script for APhA's slide-talk is Joseph A. Desiderio, who has been active in Pennsylvania pharmacy since his graduation from the Philadelphia College of Pharmacy in 1953. He is director of pharmacy service in the Delaware County Memorial Hospital, Drexel Hill. Previously, he was assistant director of pharmacy service at the Jefferson Medical College Hospital. A member of the American Society of Hospital Pharmacists and the Pennsylvania Pharmaceutical Association, Desiderio is also chairman of the Poison Control Committee of the Greater Philadelphia Hospital Pharmacists' Association.

resolution before Congress . . .

poison prevention week

by Homer A. George

Countless deaths have occurred annually due to accidental, suicidal, and industrial poisonings. Many of these deaths could have been prevented had certain individuals recognized the inherent dangers of some of our common household items or if there had been adequate information and treatment readily available. There has been a great deal of activity recently in establishing poison control and treatment centers and the author as chairman of the special committee of the American College of Apothecaries has been responsible for the establishment of various centers. However, the problem is not primarily one of treatment but—of more importance—one of prevention.

If the public could be alerted to the fact that many cases of poisoning could be prevented by the simple expediency of practicing a few definite precautionary measures, the problem of treatment would be greatly reduced.

The public must be educated in "poison prevention." Last year nearly a million people were poisoned accidentally. Each day about 1,000 children under the age of three years are poisoned accidentally and the public apparently is quite indifferent to the problem. It is amazing how unaware the public is of the dangers of accidental poisoning in the home.

There have been isolated efforts by pharmacists to reprint various antidote charts and distribute them to the public, but this approach does not reach enough people. I felt that there must be some way to alert the public in a more definitive manner. The cost of any extensive program would be high and I tried to figure who would benefit the most from the type of educational program that had to be launched. Finally deciding that next to the poison victims and their families the insurance companies should be the most concerned, I contacted the president of the Cape Girardeau County (Missouri) Association of Insurance Agents and explained the problem. An invitation to address the group was forthcoming and a program of parental education was outlined. The need for presentations before all types of civic service and religious groups was indicated and it was proposed that this might be centered around the establishment of a "Poison Prevention Week."

The following day, I visited the mayor and told him that there was a National Pickle Week and a National Mother-In-Law Week and as far as I knew neither had ever killed anyone, but poisons were going at it every day and indicated a real need for a Poison Prevention Week. He was most impressed and proclaimed the week of October 12–18, 1958 as "Poison Prevention Week." The following is the text of the resolution:

> *Whereas,* it seems needful that all of the people of our community become thoroughly acquainted with the dangers of careless handling of poisons, and *whereas,* there were 1,000,000 persons poisoned in the United States last year, and each day 1,000 children under the age of two years were poisoned by their parents, through careless handling and storage of medicines, insecticides, and chemicals, and *whereas,* there exists a great need for the education of parents to prevent such poisonings, by keeping out of the reach of children all household preparations, coal oil, furniture polish, etc., rat, fly and roach sprays, cosmetics, medicines of all kinds, especially aspirin; now, therefore, I, Walter H. Ford, Mayor of the City of Cape Girardeau, Missouri, do set aside the week of October 12 to October 18, 1958, inclusive, as Poison Prevention Week, and I call upon all citizens to assist in every way possible to become educated to prevent such dangers.

A copy of this was sent to the governor of Missouri requesting him to make a similar proclamation. In a very short time a document was received, seal and all, and Governor James T. Blair of the State of Missouri became the first governor in the United States to declare a state-wide Poison Prevention Week. The proclamation was almost identical to that of the mayor's.

Enthusiastic with the success achieved, I wondered just how far this could go and so a letter was sent to President Eisenhower. Four days later a reply was received from Frederick Fox, special assistant to the White House, commending this worthwhile endeavor. He explained, however, that such a national proclamation would require an Act of Congress and suggested that our sales representatives be contacted. I was about ten days ahead of him and had already spoken with Congressman Paul Jones of Missouri who had agreed to present a bill at the first session of the 86th Congress. This bill was introduced in January, 1959, given the number H.J. Res. 57 and assigned to a subcommittee of the House judiciary committee.

Currently the operator of two prescription pharmacies in Cape Girardeau, Missouri, Homer A. George has had a long career in pharmacy. He began working in a retail pharmacy when he was 11 years old and entered the St. Louis College of Pharmacy in 1926, becoming a registered pharmacist in 1929. The year 1936 saw the opening of his first prescription pharmacy in Cape Girardeau, a small city on the banks of the Mississippi. In 1949, after just ten weeks of operation, his second pharmacy was leveled by a tornado and had to be rebuilt. Following in his footsteps, one of George's sons is a registered pharmacist and the other is attending the St. Louis College of Pharmacy. George is a regional assistant director of the American College of Apothecaries.

Governor Blair signs the "poison prevention week" proclamation in Missouri.

On the TV program "Today" Arlene Francis discusses poison prevention week with Homer George.

The American College of Apothecaries at its annual convention in May, 1959, APhA at its annual convention in August, 1959 and many state pharmaceutical associations adopted resolutions urging passage of this bill. Many individual pharmacists, manufacturers and the public indicated their approval of the measure by letters to their congressmen. I was privileged to appear on the NBC nationally televised *Today* program and discuss the concepts of poison prevention and the intent of the bill with Arlene Francis. The bill was unanimously reported out favorably by the House subcommittee but the full committee on judiciary tabled it on August 25, 1959. A new bill—number H.J. Res. 592—was introduced by Congressman Jones on February 1, 1960 at this second session of the 86th Congress and it is hoped that with proper interest displayed by various public health groups that it will be adopted. Although the original bill called for the second week in October, it was felt that a week early in spring would be more desirable. Therefore, H.J. Res. 592 has deleted specific recommendations on the week to be so designated. The complete bill reads as follows:

H.J. Res. 592

86th Congress Second Session

In the House of Representatives, February 1, 1960, Mr. Jones of Missouri introduced the following joint resolution which was referred to the committee on the judiciary:

Joint Resolution

Whereas almost 500,000 persons are accidentally poisoned in the United States annually; and

Whereas daily almost 1000 children under the age of five years are accidentally poisoned by consuming household products containing harmful chemicals; and

Whereas household products sometimes are not adequately marked so as to warn of their poisonous properties with the result that they sometimes are not stored out of the reach of children; and

Whereas there is a great need for the education of the American people as to the dangers of accidental poisonings and of the need to keep from the reach of children all household products which contain harmful chemicals: now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled that the President is hereby authorized and requested to issue annually a proclamation designating the—week in——as National Poison Prevention Week, to aid in encouraging the American people to learn of the dangers of accidental poisoning and to take such preventive measures as are warranted by the seriousness of the danger.

A proclamation is useless if it doesn't bring results. It is hoped that a National Poison Prevention Week will focus attention on this most serious problem and that it will aid in eliminating this tremendously wasteful loss of human life. The pharmacist can be most helpful in publicizing this problem.

Following our local proclamation we attempted to create public interest. Window streamers were designed and distributed by our local auxiliary police. These were displayed in every store in town. The proclamations and ads were published in the local newspapers. Spot ads were placed on local TV and radio stations making the public aware of Poison Prevention Week.

Two days before the opening of the campaign, I was allotted 25 minutes on our local TV station to explain the dangers of and methods of preventing accidental poisoning in the home. The station had partial coverage of a five-state area and a receiving audience of more than one million and we felt the message was getting across.

These efforts have been continued and presentations have been made to more than 50 groups in at least 15 states. In addition, with the co-operation of the American College of Apothecaries, the Metropolitan Life Insurance Company was contacted and arrangements were made to distribute, through pharmacies, an excellent pamphlet entitled "Caution, Babies Learning." Many hundreds of pharmacies availed themselves of the opportunity to distribute these and we estimate that several millions of people were reached with the message.

However, the surface has just been scratched and the co-operation of each and every pharmacist is needed if the full potential of the public health value of this effort can be realized. Each pharmacist should contact his legislator and urge adoption of the bill proclaiming a National Poison Prevention Week. In addition active programs of public education should be initiated by the pharmacist. Such efforts will most certainly result in providing the community a tremendous public health service and should afford the pharmacist a great deal of self-satisfaction. ●

persona

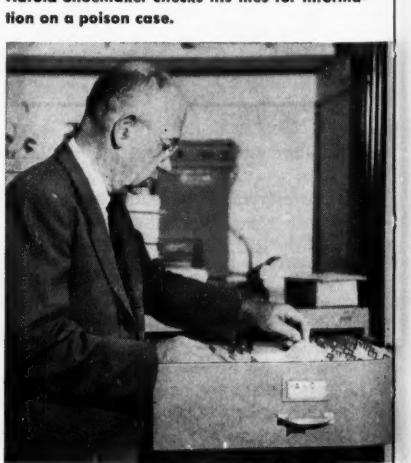
experience

by Harold A. Shoemaker

The Oklahoma Poison Information Center was officially opened on April 16, 1956, as a co-operative effort between the Oklahoma State Medical Association, the Oklahoma State Department of Health and the University of Oklahoma Medical Center. Office space and utilities are furnished by the Medical Center and funds for secretarial help, supplies, telephone service and other needs are granted by the Children's Bureau of the U.S. Department of Health, Education and Welfare through the Oklahoma State Department of Health.

The Center operates on a 24-hour basis and in contrast to many municipal centers, it has operated from its very beginning as a telephone and mail service to physicians of the entire state. This is not to say that the Center refuses advice to nonprofessionals, parents particularly, for indeed we do not. However, our experience has been—and continues to be—that under the real or apparent emergency situation, the majority of parents are so anxious and disturbed as to be incapable of carrying

Harold Shoemaker checks his files for information on a poison case.



a typical poison information center

out anything but the simplest procedures and sometimes not even those. There are exceptions, of course, but the most frequent advice still is—(1) take your child to your family doctor or (2) take your child to the nearest hospital emergency room.

The infrequency of calls directly from parents has been a surprise to us and the rapid increase of calls from interns and physicians' offices has been gratifying. Repeatedly it has been our task to call a physician and tell him that a patient is on the way and almost invariably this leads to a discussion of the possible toxic agent before the patient even arrives for medical help. Occasionally, when lay persons call, it becomes necessary to find a doctor for them.

The Center has a great amount of reference material available and it is so organized that it is readily accessible. Many problems involving different fields arise and we are fortunate in having a number of persons, specialists in specific fields such as botany, forensic pathology, veterinary toxicology, entomology and herpetology, available for consultation.

types of calls

The following condensed list will give some idea as to the type of calls that are received by the Oklahoma Poison Information Center. It covers the period from the official opening of the Center through December 31, 1959. Most of the calls were from physicians or hospital emergency rooms.

Internal Medicines	525
Household Preparations	439
Pesticides	398
Miscellaneous	195
External Medicines	172
Cosmetics	169
Petroleum Products	130
Plants, Fruits & Seeds	118
Paint & Varnish Products	64
Gases & Vapors	55
Metals & Salts	41
Noxious Foods	22
Not Known	16
Total	2344

We have definite information of only 17 deaths in the above list of calls. Two were not due to poisoning.

The greatest number of calls involve medicines, household preparations and pesticides which are inadvertently left where children have access to them. Some of the cases resulted from failure to read the label until after the substance was taken or administered. These included arsenical preparations, antiseptics, hair-dye, nail-polish remover and others.

One case, which resulted in a thoroughly frightened individual, was that of the man who picked up a container of nail-polish remover which was setting where his synthetic sweetening solution was usually kept. He did not look at the label before putting it into his tea. When the tea did not taste right, he looked at the label and discovered his mistake. Another individual took a hair-dye capsule in mistake for a vitamin preparation. One mother gave her two children a solution of Zephiran by mistake for a cough preparation.

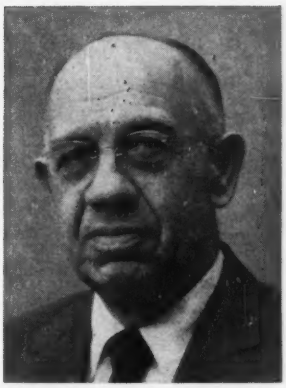
Fortunately, in most cases, the mistake was discovered almost immediately and corrective measures could be taken early. In one case, involving arsenate of lead, the mistake was not discovered until 48 hours later. The individual had rather severe symptoms of arsenic poisoning but, fortunately, after several days in a hospital with adequate treatment, did recover.

self-medication

Another type of accidental poisoning results from self-medication using relatively toxic substances. For example, we had one call where a person was told that a tea made from "Jimson Weed" was good for arthritis. She, consequently, made a tea from "Jimson Weed" and after drinking the brew, suffered all the effects of rather severe stramonium poisoning.

Unlabeled containers can and do lead to trouble. One call to the Center was a case of a severely ill child who during the previous 24 hours had received medication for a cold from six different bottles none of which had a label. After several hours of work and a long distance telephone call, all substances involved were identified and it was determined that the child's primary difficulty was an overdose of an antihistaminic and neosynephrine mixture.

Mushrooms, which in certain seasons of the year grow in great profusion in certain areas of Oklahoma, were involved



Director of the Oklahoma Poison Information Center, Harold A. Shoemaker received his education at Valparaiso University, University of Washington and Yale University. At Yale he earned his PhD in pharmacology and toxicology. A native of New Ringgold, Pennsylvania, Shoemaker began his teaching career at the University of Oklahoma in 1920 and became assistant professor of biochemistry at the school of medicine there in 1925. He has been professor of pharmacology at the university since 1935.

in poisoning episodes. We, however, have had only one case of rather severe poisoning from mushrooms. This involved a family of six who gathered some wild mushrooms which were eaten at an evening meal. Within two hours all were violently ill. The offending mushroom was not identified but from the symptoms and response to atropine, it apparently was *Amanita muscaria*. All recovered after a period of several days in the hospital.

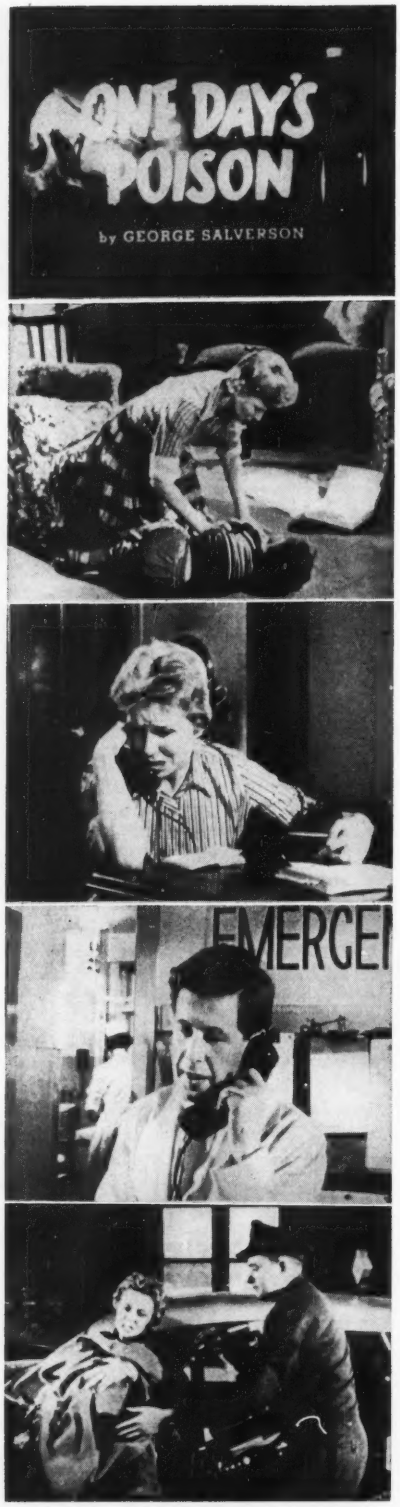
requests for plant identification

The Poison Information Center is also called upon rather frequently to identify plants. This is usually rather difficult since the person calling cannot always give a very definite description. For example, one evening a man called and said his niece had eaten a number of the little red berries that grow on a bush about one or two feet tall, and which was frequently used for table decoration in the fall. He wanted to know if they were poisonous. This plant was subsequently identified as *Symphorocarpos orbiculatus*, a nonpoisonous species.

We do not attempt to identify a plant on the basis of the information that is given over the telephone but try to obtain a specimen and have a botanist identify the plant for us. In the fruits, seeds and plants listed in the table at left, there are such things as iris tubers, four-o-clock blooms, trumpet flower, honeysuckle blooms, jimson weed

(*Continued on page 162*)

films tell the story...



The story of what happened in one case of accidental poisoning. From top to bottom—A mother finds her son has taken poison and immediately calls the poison control center from which she receives instructions to bring her child to the hospital . . .

The National Film Board of Canada has produced a movie entitled "One Day's Poison" which is excellent for presentation to various local community groups such as PTA, women's clubs and others. The 30-minute, 16-mm, black and white sound film, takes the viewer behind the scenes of the poison control center at the Sick Children's Hospital in Toronto, Canada.

Dramatizing a series of incidents in a day's work at a poison control center, the film illustrates the variety and number of accidental poisonings, particularly among children. The main incident, around which the story revolves, concerns the accidental ingestion of some 22 acetylsalicylic acid tablets by a three-year-old child. Woven into the story are incidents involving a father who reluctantly brings his daughter to the hospital after she has consumed "half a bottle of kerosene"; a telephone inquiry from a distant general practitioner who has a case of strychnine poisoning to treat; and telephone calls needed to determine the formula of a medicament for "pin worms."

The film is an indictment against the adult neglect or carelessness that can exact such a tragic toll of innocent young life. To counterbalance it as far as humanly possible, poison control centers such as the one in Toronto are on duty day and night, waging a never-ending fight to save the victims of needless accidents. This film is of special value for parent education and health programs.

From the National Film Board of Canada, 680 Fifth Avenue, Room 819, New York 19, New York, the film may be purchased at $130 per print. It can be obtained also on loan from many local libraries or from the chief, Communicable Disease Center, Film Lending Library, P.O. Box 185, Chamblee, Georgia. Requests for prints from the Public Health Service must be made as far in advance as possible.

If prints of the film cannot be obtained on the dates needed from the Public Health Service or from the local library, the film can be rented at seven dollars a day plus transportation charges from Contemporary Films, Inc., 267 West 25th Street, New York 1, New York, or 614 Davis Street, Evanston, Illinois, or from William Dennis Film Libraries, 2506½ West Seventh Street, Los Angeles 57, California. ●

. . . At the hospital the child is checked and his stomach pumped. His relieved parents are permitted to see him as he smiles happily following his recovery.

poison in the house

Association Films, Inc., has produced a 10-minute, 16-mm sound motion picture in color entitled "Poison in the House" which is available for showing to lay audiences. Colorful puppets help this film effectively point out the hazards of poisons which may be carelessly left within a child's reach.

Orginally produced by the staff of the department film studio and the poison information center of the Mary Hitchcock Memorial Hospital for the New Hampshire Department of Health, "Poison in the House" is now available for sale or rental.

A print can be purchased from Association Films, Inc., 347 Madison Avenue, New York 17, New York at $65, or rented from the same organization at $4 per day.

Sources of **Supply** of Selected **Antidotes**

† ***Aluminum hydroxide gel**	Amphojel (Wyeth) 12 fl. oz Creamalin (Winthrop) 8 & 16 fl. oz Various other suppliers
† **Aminophylline ampuls**	Various suppliers 25 mg/cc, 10 & 20 cc amps 250 mg/cc, 2 cc amps
‡ **d-Amphetamine sulfate injection**	Various suppliers 20 mg/cc, 30 cc vials
‡‡***Amyl nitrite ampuls**	Aspirols (Lilly) 0.18 cc & 0.3 cc amps, 12s Vaporole (Burroughs Wellcome) 0.18 cc & 0.3 cc amps, 12s (See also Cyanide kit)
‡‡***Anti-snake-bite serum**	Antivenin, snake-bite, polyvalent (Wyeth)
Anti-spider-bite serum	Antivenin, black widow spider (Merck Sharp & Dohme)
‡‡***Atropine sulfate ampuls** and **hypodermic tablets**	Various suppliers 1/150 gr/cc amps 1/50 gr to 1/200 gr HTs
Bemegride ampuls	Megimide (Abbott) 5 mg/cc, 10 cc & 30 cc amps
‡***Botulism antitoxin**	Bivalent botulism antitoxin (Lederle) 10,000 units @ Type A & B/vial
‡‡***Caffeine sodium benzoate ampuls**	Various suppliers 250 mg/cc, 2 cc amps, 10s
‡‡***Calcium gluconate ampuls or calcium gluconogalactogluconate**	Neo-Calglucon (Sandoz) 10% & 20% 5 cc & 10 cc amps Various suppliers 10% soln, 10 cc amps, 6s, 25s
***Calcium hydroxide solution** (lime water)	Powder from various suppliers; solution made as required
Cyanide Kit	Available from Lilly. Includes: 2 Sodium nitrite amps, 10 cc 2 Sodium thiosulfate amps, 50 cc 12 Amyl nitrite amps
‡‡***Dextrose** (glucose) **injection** 5% and 50% soln	Various suppliers 50% soln, 20 cc & 50 cc amps, 6s, 25s 5% soln made by dilution
† **Digitalis glycosides**	Cedilanid-D (Sandoz) 0.2 mg/cc, 2 & 4 cc amps, 6s, 30s Digoxin injection (Burroughs Wellcome) 0.25 mg/cc, 2 cc amps, 12s Various other suppliers
‡‡***Dimercaprol ampuls**	BAL (Hynson, Westcott & Dunning) 10% in peanut oil, 3 cc amps, 10s
‡ **Diphenhydramine HCl capsules** and **ampuls**	Benadryl (Parke, Davis) 25 mg caps., 100s & 1000s 50 mg/cc, 1 cc amps, 10s
‡‡ **Edathamil calcium disodium** (calcium EDTA) **ampuls**	Versenate calcium disodium (Riker) 200 mg/cc, 5 cc amps, 6s
‡‡***Epinephrine HCl ampuls**	Adrenalin chloride (Parke, Davis) 1:1000 1 cc amps, 10s Various other suppliers
‡ **Ether**	Various suppliers
† **Ipecac syrup**	Various suppliers
‡‡ **Levarterenol** (nor-epinephrine) **bitartrate ampuls**	Levophed bitartrate (Winthrop) 2 mg/cc (0.2%) 4 cc amps, 10s
‡‡***Methylene blue ampuls**	(Rorer) and (Kirk) 1% 10 cc amps, 6s, 25s
Methylphenidate HCl injection	Ritalin HCl (Ciba) multiple dose 10 cc vial
‡***Milk, evaporated** (cans)	Various suppliers
‡***Milk of magnesia**	Various suppliers
***Mineral oil** (liquid petrolatum)	Various suppliers
‡‡***Morphine sulfate hypodermic tablets**	Various suppliers 1/8, 1/6, 1/4, 1/2 gr HTs
‡‡ **Nalorphine HCl ampuls**	Nalline HCl (Merck Sharp & Dohme) 5.0 mg/cc, 1, 2, 10 cc amps
or **Levallorphan tartrate**	Lorfan tartrate (Roche) 1 mg/cc, 1 cc amps
† **Neostigmine methylsulfate injection**	Prostigmin methylsulfate (Roche) 1:2000, 1 cc amps, 12s, 50s; 10 cc vials; 1:4000, 1 cc amps, 12s, 100s
† **Nikethamide ampuls**	Coramine (Ciba) 25% soln, 1.5 cc, 5 cc & 20 cc Various other suppliers
† ***Normal saline injection**	Various suppliers Bottles of 150, 250, 500, 1000 cc
† **Olive oil or other vegetable oil**	Various suppliers
† ***Paraldehyde**	(Buffington), (Rorer), (Merck Sharp and Dohme) and others 2 cc, 5 cc amps
‡‡***Pentobarbital sodium ampuls**	Nembutal sodium (Abbott) 50 mg/cc, 2 cc & 5 cc amps, 20 cc & 50 cc vials
Pentylenetetrazol ampuls	Metrazol (Knoll) 100 mg/cc, 1 & 3 cc amps
‡‡ **Phytonadione** (vitamin K_1) **injection**	Mephyton (Merck Sharp & Dohme) 1 cc amp, 50 mg I.V. emulsion, 6s Konakion (Roche) 1 mg/0.5 cc amp for I.V. & S.C. injection 10 mg/1 cc amps & 25 mg/2.5 cc amps
or ***Menadione** (Vitamin K)	Hykinone (Abbott) 5 mg and 10 mg, 1 cc amps 72 mg 10 cc amps Various other suppliers Kappadione (Lilly) 5 mg & 10 mg/cc amps
Plasma, normal human	(Hyland) Liquid 120, 300 & 600 cc Dried with diluent 50, 250 & 500 cc (Merck Sharp and Dohme) Lyovac yields 50, 250 & 500 cc restored plasma Various other suppliers
Potassium chloride injection	Various suppliers 149 mg (2 milliequiv.)/cc, 10 & 20 cc amps
‡‡***Potassium permanganate solution 1:1000**	Crystals available from various suppliers; solution and dilutions thereof made as required
† **Procainamide HCl injection**	Pronestyl HCl (Squibb) 100 mg/cc, 10 cc vials
Quinidine gluconate injection or Quinidine HCl ampuls	(Lilly) 80 mg/cc, 10 cc amps (Brewer) 600 mg/5 cc amps
Quinidine sulfate ampuls	Quinidate (Thompson) 200 mg/cc, 1 cc amps, 6s, 25s (Dumont), (Gotham) and other suppliers
‡‡***Sodium bicarbonate powder** and **ampuls**	Powder available from various suppliers; solution prepared as required (Abbott) 3.75 Gm 50 cc amps, 6s, 25s
Sodium lactate solution	(Don Baxter) and other suppliers 150 cc, 250 cc & 1000 cc
‡‡***Sodium nitrite powder**	Powder available from various suppliers. 3% injectable solution to be made from powder and water for injection as required (See also Cyanide Kit)
‡‡***Sodium sulfate crystals** and **solution**	Crystals available from various suppliers; solution made as required
‡‡***Sodium thiosulfate solution** and **ampuls**	Crystals available from various suppliers; solution made as required Ampuls—various suppliers 50 mg and 100 mg/cc, 10 to 30 cc amps (See also Cyanide Kit)
‡***Starch**	Various suppliers; paste made as required.
‡***Universal antidote**	2 parts activated charcoal, 1 part magnesium oxide, 1 part tannic acid. Also available as: Res-Q (Boyle); P.A.K. #1 (Olender & Reiss)
‡‡***Vinegar, lemon juice concentrate, or 5% acetic acid solution**	Various suppliers

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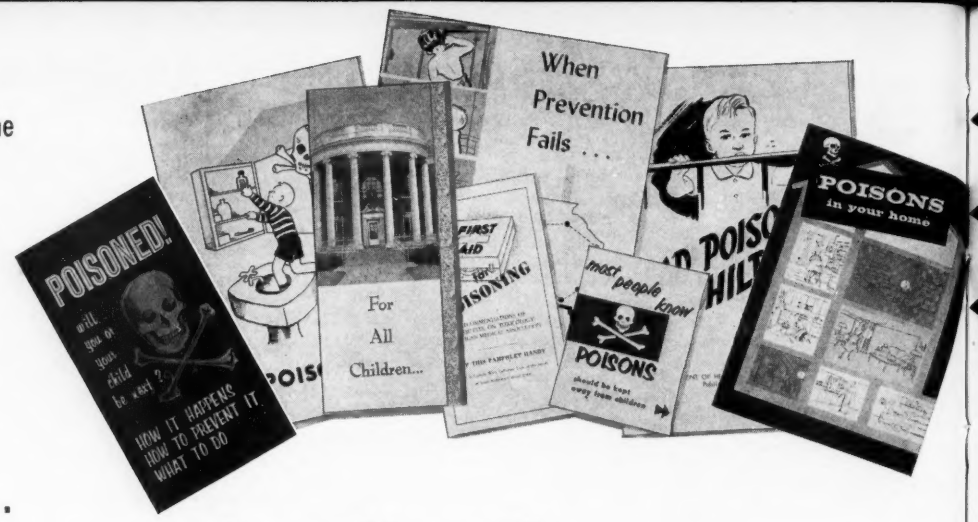
* Mentioned in APhA Manual 101.

† Included in antidote list of *Procedure Book for the Management of Childhood Poisoning*, Boston, Massachusetts, 1956.

‡ Included in antidote list of Robert H. Dreisbach's *Handbook of Poisons*, Lange Medical Publications, Los Altos, California, 1960.

by Irving Sunshine

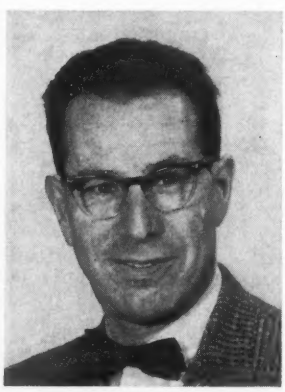
poison control centers . . . educational activities



An assay of the status of present educational activities and anticipated future needs of poison information centers would help in planning any future educational program. Consequently, a questionnaire was sent to all 275 existing poison information centers on April 30, 1959. A reminder was sent on June 9, 1959 to those who had not responded to the first request. In all, 192 replies were received, 180 of which were summarized with the help of Dr. George M. Wheatley and Dr. Melvin M. Udel of the Metropolitan Life Insurance Company.

The results of the survey indicate:

1. Twenty-three percent of the centers are concerned with educational activities for both physicians and parents.
2. Professional education is aimed primarily at hospital house staffs and nurses.
3. The chief means of communication to professional personnel is the written word via abstracts or reprints of technical articles.
4. A large majority (85 percent) of the centers would like to receive educational material even if they are not actively engaged in educational programs at this moment.
5. Fifty percent of the centers do not have available funds for the distribution of the requested educational materials.
6. Only 30 percent of the centers have funds available for the purchase of educational materials.
7. The educational medium used or favored is pamphlets. However, posters, exhibits, charts and slides also are used and in demand.
8. In 80 percent of the states where centers function the local community or the state health departments have prepared some educational materials on the prevention of accidental poisonings. In several instances the lines of communication between the center and the health department are not open and the centers are apparently unaware of the existence of the health department's material.



For Irving Sunshine three is a significant figure. The recipient of three degrees from New York University, he has a background of experience in three areas—teaching, research chemistry and toxicology. At present he holds three positions. In addition to serving as technical director of the Poison Information Center of the Cleveland, Ohio, Academy of Medicine and as assistant professor of toxicology at Western Reserve University, Dr. Sunshine also acts as toxicologist in the Cuyahoga County coroner's laboratory.

Samples of visual aids used in educational programs on prevention of accidental poisonings have been collected (*see list on page 146*). This collection shows much duplication of effort in the preparation of pamphlets concerned with the same or similar problems. One large printing on each phase of the problem could save considerable effort and expense and result in a better final product.

The film "One Day's Poison" produced by the National Film Board of Canada illustrates this point (*see page 142*). It is a professional, well done job. The cost to any center desiring to use this film is far less than any similar production it might attempt on its own. This film has been used by many centers very effectively.

The committee on educational activities of the American Association of Poison Control Centers recommends that a similar approach be taken in the preparation of educational materials on the prevention of accidental poisonings, be it pamphlets, posters, slides, charts and even exhibits. The text for this material should be prepared by a group of collaborators active in the field of prevention of accidental poisonings. This text should be professionally illustrated and then reproduced in large quantity for distribution to all centers at nominal cost.

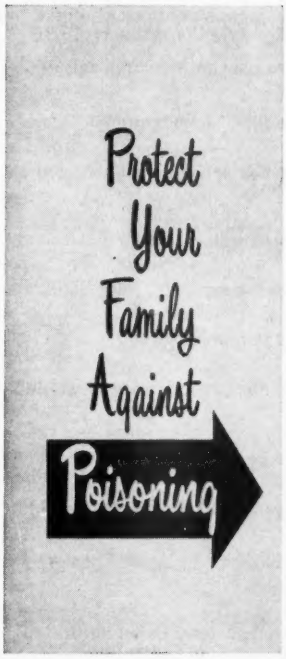
A program designed to prepare educational materials has been started. Many volunteers have offered to advise and consult on the content of the proposed material. Additional help would be welcomed. A suggested talk to parents on the problem of prevention of accidental poisoning, illustrated by a set of colored slides, is in preparation. A pamphlet, poster and a suggested list of activities to "poison-proof" a home is also being prepared to interest parents in this problem of the prevention of accidental poisoning in their own homes. Additional material will be prepared for use on radio and TV.

As these materials are prepared they will be made available to all interested parties. Copies will be sent to all state health departments and poison control centers for their information, use and distribution.

Other groups such as the American Medical Association's committee on toxicology and the National Safety Council are also concerned with this problem of prevention of accidental poisonings. Plans are under consideration for the collaboration and cooperation of these groups to further and better the future program.

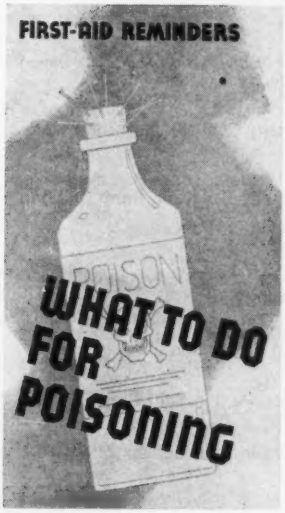
The pamphlets and brochures shown with the title from various poison control centers are available, mainly on a local or regional basis. They include (*left to right*) Knoxville (Tenn.) Poison Control Center; San Jose (Calif.) Health Department; Childrens Memorial Hospital, Omaha (Nebr.); Denver, (Colo.) Poison Information Center; Georgia Department of Public Health; Connecticut Poison Information Center; Department of Health, Education, and Welfare (Washington, D.C.); and American Visuals Corp. (New York City).

Individual copies of these two pamphlets are available at no charge from the Metropolitan Life Insurance Company, One Madison Avenue, New York 10, New York. Quantity supplies are not presently available.



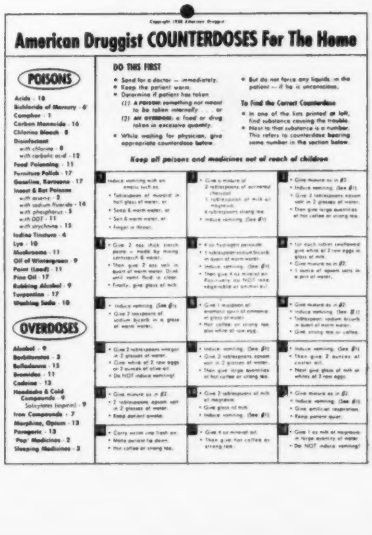
This pamphlet is available at no cost in quantities up to 100 from the Food and Drug Administration, Department of Health, Education, and Welfare, Washington 25, D.C. For larger quantities, black and white negatives are provided at no cost for offset reproduction. Requests should be addressed to the Division of Public Information.

This 16-page booklet, authored by Dr. W.W. Bauer, is available from the Good Reading Service, 76 Ninth Avenue, New York, 11, New York at $0.25 per copy. Representative quantity prices are $9/100; $40/500 and $70/1,000.



The National Safety Council, 425 North Michigan Avenue, Chicago, Illinois, will provide this two-color 3½" × 6¼" pamphlet at $0.44 per hundred copies. The National Safety Council will also provide a four-page leaflet entitled "Safety Education Data Sheet No. 21—Solid and Liquid Poisons" at $0.60 per hundred.

This "*American Druggist* Counterdoses" for the Home was first published in March, 1955, and has been revised yearly. It has been reproduced and given wide distribution by such organizations as pharmaceutical associations, manufacturers, wholesalers, retail pharmacies, health departments, telephone companies, insurance companies and radio stations.


American Druggist COUNTERDOSES For The Home

DO THIS FIRST

- Send for a doctor — immediately.
- Keep the patient warm.
- Determine if patient has taken
  (1) A POISON something not meant to be taken internally . . . or
  (2) An OVERDOSE: a food or drug taken in excessive quantity.
- While waiting for physician, give appropriate counterdose below.
- But do not force any liquids on the patient — if he is unconscious.

To find the Correct Counterdose

- In one of the lists printed at left, find substance causing the trouble.
- Next to that substance is a number. This refers to counterdose bearing same number in the section below.

Keep all poisons and medicines out of reach of children

POISONS

Acids - 10
Bichloride of Mercury - 6
Camphor - 1
Carbon Monoxide - 16
Chlorine Bleach - 8
Disinfectant
with chlorine - 8
with carbolic acid - 12
Food Poisoning - 11
Furniture Polish - 17
Gasoline, Kerosene - 17
Iodine & Bar Poisons
with arsenic - 3
with sodium fluoride - 14
with phosphorus - 5
with DDT - 11
with strychnine - 13
Iodine Tincture - 4
Lye - 10
Mushrooms - 11
Oil of Wintergreen - 9
Paint (Lead) - 11
Pine Oil - 17
Rubbing Alcohol - 9
Turpentine - 17
Washing Soda - 10

OVERDOSES

Alcohol - 9
Barbiturates - 2
Belladonnas - 15
Bromides - 11
Codeine - 13
Headache & Cold Compounds - 9
Salicylates (aspirin) - 9
Iron Compounds - 7
Morphine, Opium - 13
Paregoric - 13
Poy' Medicines - 2
Sleeping Medicines - 3

1 Induce vomiting with an emetic such as:
- Tablespoon of mustard in half glass of water, or
- Soap & warm water, or
- Salt & warm water, or
- Finger in throat.

2 Give 2 tea. thick starch paste — made by mixing cornstarch & water.
Then give 2 tea. salt in quart of warm water. Dose until vomit fluid is clear.
Finally, give glass of milk.

3 Induce vomiting. (See #1).
Give 2 teaspoons of sodium bicarb in a glass of warm water.

4 Give 2 table-spoons vinegar in 2 glasses of water.
Give white of 2 raw eggs or 2 ounces of olive oil.
Do NOT induce vomiting!

5 Give mineral oil or #2.
2 tablespoons epsom salt in 2 glasses of water.
Keep patient awake.

6 Carry victim into fresh air.
Make person lie down.
Hot coffee or strong tea.

7 Give 2 tea. thick starch paste — made by mixing cornstarch & water.
Then give 2 tea. salt in quart of warm water. Dose until vomit fluid is clear.
Finally, give glass of milk.

8 Induce vomiting. (See #1).
Give 2 teaspoons of sodium bicarb in a glass of warm water.

9 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Keep patient awake.

10 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

11 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

12 Give mineral oil or #2.
2 tablespoons epsom salt in 2 glasses of water.
Keep patient awake.

13 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

14 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

15 Give mineral oil or #2.
2 tablespoons epsom salt in 2 glasses of water.
Keep patient awake.

16 Give 2 tablespoons of milk of magnesia.
Give glass of milk.
Induce vomiting. (See #1).

17 Give 4 oz mineral oil.
Then give hot coffee or strong tea.

18 For hydrogen peroxide:
1 tablespoon sodium bicarb in quart of warm water.
Induce vomiting. (See #1).
Then give 4 oz mineral oil.
For others: no NOT take vegetable or animal oil!

19 Give 1 teaspoon of aromatic spirit of ammonia in glass of water.
Induce vomiting. (See #1).
Then give large quantities of hot coffee or tea.

20 For each rubber swallowed give white of 2 raw eggs in glass of milk.
Give mineral oil or #2.
1 ounce of epsom salts in a pint of water.

21 Induce vomiting. (See #1).
Give mineral oil or #2.
1 tablespoon sodium bicarb in quart of warm water.

22 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

23 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

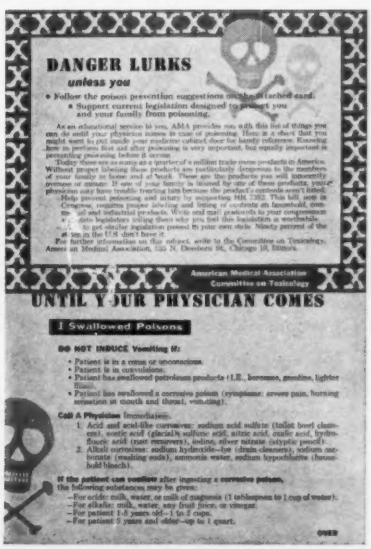
24 Give mineral oil or #2.
2 tablespoons epsom salt in 2 glasses of water.
Keep patient quiet.

25 Induce vomiting. (See #1).
Give 2 tablespoons epsom salt in 2 glasses of water.
Then give large quantities of hot coffee or strong tea.

26 Give mineral oil or #2.
Induce vomiting. (See #1).
Give artificial respiration.
Keep patient quiet.

27 Give 1 oz milk of magnesia or large quantity of water.
Do NOT induce vomiting!

The American Medical Association Committee on Toxicology, 535 North Dearborn Street, Chicago 10, Illinois, will provide this excellent chart for distribution to the public by medical societies and allied health organizations.


DANGER LURKS
unless you

- Follow the poison prevention suggestions on the attached card.
- Support current legislation designed to protect you and your family from poisoning.

As an educational service to you, AMA provides you with this list of things you can do until your physician comes in case of poisoning. Here is a chart that you might want to put inside your medicine cabinet door for handy reference. Knowing how to perform first aid after poisoning is very important, but equally important is preventing poisoning before it occurs.

Today there are as many as a quarter of a million trade-name products in America. Without proper labeling these products are particularly dangerous to the members of your family at home and at work. These are the products you will innocently purchase or misuse. If one of your family is harmed by one of these products, your physician may have trouble treating him because the product's contents aren't listed.

Help prevent poisoning and injury by supporting HR 7302. This bill, now in Congress, requires proper labeling and listing of contents on household, commercial and industrial products. Write and mail postcards to your congressman [illegible] to get similar legislation passed in your own state. Ninety percent of the [illegible] in the U.S. don't have it.

For further information on this subject, write to the Committee on Toxicology, American Medical Association, 535 N. Dearborn St., Chicago 10, Illinois.

American Medical Association
Committee on Toxicology

UNTIL YOUR PHYSICIAN COMES

I Swallowed Poisons

DO NOT INDUCE Vomiting If:

- Patient is in a coma or unconscious.
- Patient is in convulsions.
- Patient has swallowed petroleum products (i.E., kerosene, gasoline, lighter fluid).
- Patient has swallowed a corrosive poison (symptoms: severe pain, burning sensation at mouth and throat, vomiting).

Call A Physician Immediately.

1. Acid and acid-like corrosives: sodium acid sulfate (toilet bowl cleaner), acetic acid (glacial); sulfuric acid, nitric acid, oxalic acid, hydrofluoric acid (rust removers), iodine, silver nitrate (styptic pencil).
2. Alkali corrosives: sodium hydroxide—lye (drain cleaners), sodium carbonate (washing soda), ammonia water, sodium hypochlorite (household bleach).

If the patient can vomit after ingesting a corrosive poison, the following substances may be given:

—For acids: milk, water, or milk of magnesia (3 tablespoons to 1 cup of water).
—For alkalis: milk, water, any fruit juice, or vinegar.
—For patient 1-5 years old—1 to 2 cups.
—For patient 5 years and older—up to 1 quart.

OVER

list of educational materials used in accident prevention

name of publication	published or distributed by	size (in inches)	description*
general			
54 Children	Alameda-Contra Costa Medical Association, Oakland, California	3 x 6	1-page flier
Poison	Alameda-Contra Costa Medical Association, Oakland, California	3 x 6	1-page flier
Protecting Your Home from Unlabeled Poisons	American Medical Association Chicago, Illinois	$5^1/_2$ x $8^1/_2$	6-page pamphlet, 1-color, reprint from *Today's Health*, January, 1958
Potential Poisons in Your Home	American Visuals Corp. New York, New York	5 x 7	14-page booklet, 2-color, illustrated
Dear Parents	Bethesda, Maryland Poison Control Center	$8^1/_2$ x 11	1-page flier, mimeographed, 1-color
Keep Your Home Free from Poisonings •	Canadian Department of National Health and Welfare Ottawa, Canada	7 x 5	8-page booklet, 2-color, illustrated
Curiosity Can Kill Your Child	Cleveland, Ohio, Academy of Medicine, Poison Information Center	$3^1/_2$ x 7	6-page pamphlet, 2-color, illustrated
Most People Know Poisons Should Be Kept from Children	Connecticut State Department of Health, Hartford, Connecticut	3 x 4	16-page phamplet, 1-color, illustrated
First Aid for Poisoning	Denver, Colorado Poison Control Center	3 x 6	8-page pamphlet, 1-color
Protect Your Family Against Poisoning	Food and Drug Administration Department of Health, Education and Welfare, Washington, D.C.	$3^1/_2$ x 8	6-page pamphlet, 1-color, illustrated
When Prevention Fails	Georgia Department of Public Health, Atlanta, Georgia	7 x 8	4-page pamphlet, 1-color
Poison Peril in Your Home	Good Reading Book Service New York, New York	5 x $7^1/_2$	14-page booket, 2-color, illustrated
Will Your Child Be Next?	Indianapolis, Indiana, Medical Society Poison Control Committee	$8^1/_2$ x 11	2 mimeographed sheets, 1-color
First Aid Guide	Johnson & Johnson New Brunswick, New Jersey	4 x 6	34-page booklet, 1-color, illustrated
Poison Proofing Your Home	Johnson & Johnson New Brunswick, New Jersey	$5^1/_2$ x $8^1/_2$	6-page booklet, 2-color
Poisoned!	Knoxville, Tennessee Poison Control Center	$3^1/_2$ x 7	6-page flier, 2-color, illustrated
It's Dollars	Maryland State Department of Health	$5^1/_2$ x $8^1/_2$	4-page pamphlet, 1-color, illustrated, mimeographed
Caution! Babies Learning	Metropolitan Life Insurance Co. New York, New York	5 x 8	4-page pamphlet, 2-color
What's in Your Medicine Chest?	Metropolitan Life Insurance Co.	$5^1/_2$ x 8	4-page pamphlet, 2-color, illustrated
Carelessness Kills	Milwaukee Medical Society Child Welfare Committee	$8^1/_2$ x 11	2-page flier, 1-color, illustrated
Mother! Protect Your Children from Poisoning	New York City Department of Health	$5^1/_2$ x $8^1/_2$	4-page pamphlet, 2-color, illustrated, English & Spanish on same pamphlet
Protect Your Child's Life	Northern Michigan Pharmacists Association, Petoskey, Michigan	4 x 6	4-page pamphlet
For All Children	Omaha, Nebraska Poison Control & Treatment Center	$3^1/_2$ x 8	4-page pamphlet, 2-color
If It Is Not Food It Is Poison	Ontario Medical Association, Child Welfare Committee, Canada	6 x 9	1 page flier, 1-color
Accidental Poisoning	Philadelphia Department of Public Health, Pennsylvania	$3^1/_2$ x 6	6-page pamphlet, 2-color, illustrated English & Spanish
Poisons	San Jose City Health Department & Santa Clara County Safety Council, California	$5^1/_2$ x $8^1/_2$	4-page pamphlet, 2-color

* Descriptive terms defined.
Flier—One unfolded sheet with printing on one or both sides.
Pamphlet—One sheet printed on both sides that has been folded once or twice to give the effect of several pages. Dimensions of the folded pamphlet are given.
Booklet—Bound compilation of many pages. The given size represents that of a single page.
Illustrated—More than one illustrative picture or cartoon.

name of publication	published or distributed by	size (in inches)	description
Accidental Poisoning in Children, Virginia Health Bulletin	Richmond, Virginia State Department of Health	6 x 9	12-page booklet, 1-color, illustrated
Poisoning in the Home, Virginia Health Bulletin	Richmond, Virginia State Department of Health	6 x 9	12-page booklet, 1-color, illustrated
carbon monoxide			
CO and You	U.S. Department of Health, Education and Welfare Washington, D.C.	3½ x 8½	8-page booklet, 1-color
lead			
Be a Private Eye	Cleveland, Ohio, Academy of Medicine, Poison Information Center	3½ x 8½	6-page pamphlet, 2-color, illustrated
Paint May Be Poison	New York City Department of Health	3½ x 6	6-page pamphlet, 2-color, English & Spanish
Is Your Child Being Slowly Poisoned?	Philadelphia Department of Public Health, Pennsylvania	3½ x 6	6-page pamphlet, 2-color, illustrated
Lead Poisoning	Philadelphia Department of Public Health, Pennsylvania	3½ x 6	6-page pamphlet, 2-color, illustrated
Lead Poisoning in Children	U.S. Department of Health, Education and Welfare, Washington, D.C.	6 x 9	4-page pamphlet, 1-color
antidotes			
American Druggist Counterdoses for the Home	American Druggist New York, New York	7 x 9	2-page flier, 2-color, heavy paper
First Aid Measures for Swallowed Poisons	Connecticut State Department of Health, Hartford	8½ x 11	2-page flier, 1-color, mimeographed
Emergency Antidotes	L-K Professional Pharmacy Aurora, Colorado	5 x 8	1-page flier, 1-color, gummed
First Aid	Milwaukee Safety Commission Wisconsin	9 x 12	1-page flier, 1-color, gummed
Emergency Procedures	Nutley Poison Control Center Nutley, New Jersey	8½ x 11	1-page flier, 1-color, mimeographed
Poisons Chart	Ralston's Drug Store Weston, West Virginia	8 x 13	1-page flier, 1-color, heavy paper
Counterdoses for the Home	Rexall Druggists, Los Angeles, California	11 x 14	1-page flier, 2-color
safety education			
Accident Handbook	Children's Medical Center Boston, Massachusetts	4 x 7½	20-page booklet, 2-color, illustrated
Parents' Check List	Hawaii Department of Health	3 x 8½	8-page pamphlet, 2-color, illustrated
The A B C Safety Book	Honolulu, Hawaii Office of Health Education	6 x 9	20-page booklet, 2-color, illustrated
Safe at Home	John Hancock Mutual Life Insurance Co.	4½ x 6½	22-page booklet, 2-color, illustrated
What's the Answer?	Maricopa County Medical Society Phoenix, Arizona	4 x	20-page booklet, 1-color, illustrated
A Formula for Child Safety	Metropolitan Life Insurance Co.	5½ x 8	14-page booklet, 2-color, illustrated
First Aid	Metropolitan Life Insurance Co.	5 x 7½	2-page flier, 2 color, heavy paper
Your Child's Safety	Nationwide Insurance Co.	5½ x 8	22-page booklet, 2-color, illustrated
A Child Safety Check List	City of New York Department of Health	3½ x 6	6-page pamphlet, 1-color, English & Spanish
A Child Safety Handbook	City of New York Department of Health	4½ x 6½	18-page booklet, 1-color, illustrated English & Spanish
Safe at Home	City of New York Department of Health	3½ x 6	6-page pamphlet, 2-color, English & Spanish
Parents of Nutley	Nutley Poison Control Center Nutley, New Jersey	7 x 9	4-page pamphlet, 1-color
Are You Sure Your Home Is Safe for Your Children	Prudential Insurance Co. of America	7 x 6	4-page pamphlet, 1-color
Safety . . . Your Child's Heritage	Prudential Insurance Co. of America	6½ x 6	12-page booklet, 1-color
Safety	San Jose City Health Department San Jose, California	5 x 8	Series of 6 fliers, 1-color, illustrated
Are You Safe in Your Home?	Tennessee Department of Public Health, Nashville	5 x 8	4-page pamphlet, 1 color

first aid measures for poisoning

Adopted by the American Medical Association committee on toxicology in response to numerous requests for general instructions for poisoning emergencies. Reprinted from the *Journal of the American Medical Association*, October 12, 1957, these recommendations are intended for use in educating the public in what to do when poisoning occurs.

Emergency Telephone Numbers:

Physician.....Fire Dept.....
Hospital.....(resusciator)
Pharmacist.....Police.....
Rescue Squads.....

The aim of first aid measures is to help prevent absorption of the poison. **Speed** is essential. First aid measures must be started at once. If possible, one person should begin treatment while another calls a physician. When this is not possible, the nature of the poison will determine whether to call a physician first or begin first aid measures and then notify a physician. Save the poison container and material itself if any remains. If the poison is not known, save a sample of the vomitus.

measures to be taken before arrival of physician

I. swallowed poisons

Many products used in and around the home, although not labeled "Poison," may be dangerous if taken internally. For example, some medications which are beneficial when used correctly may endanger life if used improperly or in excessive amounts.

In all cases, *except those indicated below*, **remove poison from patient's stomach immediately** by inducing vomiting. This cannot be overemphasized, for it is the essence of the treatment, and is often a lifesaving procedure. Prevent chilling by wrapping patient in blankets if necessary. Do not give alcohol in any form.

A. Do not induce vomiting if:

1. Patient is in coma or unconscious.
2. Patient is in convulsions.
3. Patient has swallowed petroleum products (i.e., kerosene, gasoline, lighter fluid).
4. Patient has swallowed a corrosive poison (symptoms: severe pain, burning sensation in mouth and throat, vomiting).

Call physician immediately.

(a) Acid and acid-like corrosives: sodium acid sulfate (toilet bowl cleaners), acetic acid (glacial), sulfuric acid, nitric acid, oxalic acid, hydrofluoric acid (rust removers), iodine, silver nitrate (styptic pencil).

(b) Alkali corrosives: sodium hydroxide-lye (drain cleaners), sodium carbonate (washing soda), ammonia water, sodium hypochlorite (household bleach).

If the patient can swallow after ingesting *a corrosive poison*, the following substances (and amounts) may be given:

For acids: milk, water or milk of magnesia (1 tablespoon to 1 cup of water).

For alkalis: milk, water, any fruit juice or vinegar.

For patient one to five years old—one to two cups.

For patient five years and older—up to one quart.

B. Induce vomiting when non-corrosive substances have been swallowed:

1. Give milk or water (for patient one to five years old—one to two cups; for patient over five years—up to one quart).
2. Induce vomiting by placing the blunt end of a spoon or your finger at the back of the patient's throat or by use of this emetic—two tablespoons of salt in a glass of warm water.

When retching and vomiting begin, place patient face down with head lower than hips. This prevents vomitus from entering the lungs and causing further damage.

II. inhaled poisons

1. Carry patient (do not let him walk) to fresh air immediately.
2. Open all doors and windows.
3. Loosen all tight clothing.
4. Apply artificial respiration if breathing has stopped or is irregular.
5. Prevent chilling (wrap patient in blankets).
6. Keep patient as quiet as possible.
7. If patient is convulsing, keep him in bed in a semidark room; avoid jarring or noise.
8. Do not give alcohol in any form.

III. skin contamination

1. Drench skin with water (shower, hose, faucet).
2. Apply stream of water on skin while removing clothing.
3. Cleanse skin thoroughly with water; rapidity in washing is most important in reducing extent of injury.

IV. eye contamination

1. Hold eyelids open, wash eyes with gentle stream of running water immediately. Delay of few seconds greatly increases extent of injury.
2. Continue washing until physician arrives.
3. Do not use chemicals; they may increase extent of injury.

V. injected poisons (scorpion and snake bites)

1. Make patient lie down as soon as possible.
2. Do not give alcohol in any form.
3. Apply tourniquet above injection site (e.g., between bite and heart). The pulse in vessels below the tourniquet should not disappear, nor should the tourniquet produce a throbbing sensation. Tourniquet should be loosened for one minute every 15 minutes.
4. Apply ice-pack to the site of the bite.
5. Carry patient to physician or hospital; do not let him walk.

VI. chemical burns

1. Wash with large quantities of running water (except those caused by phosphorus).
2. Immediately cover with loosely applied clean cloth.
3. Avoid use of ointments, greases, powders and other drugs in first-aid treatment of burns.
4. Treat shock by keeping patient flat, keeping him warm, and reassuring him until arrival of physician.

measures to prevent poisoning accidents

A. Keep all drugs, poisonous substances, and household chemicals out of the reach of children.

B. Do not store nonedible products on shelves used for storing food.

C. Keep all poisonous substances in their original containers; do not transfer to unlabeled containers.

D. When medicines are discarded, destroy them. Do not throw them where they might be reached by children or pets.

E. When giving flavored and/or brightly colored medicine to children, always refer to it as medicine—never as candy.

F. Do not take or give medicine in the dark.

G. Read labels before using chemical products. ■

poison information and the pharmacist

by Morton J. Rodman

Any physician will readily admit that he doesn't like to handle accidental poisoning cases. Though he's usually well grounded in the general principles of antidotal and supportive treatment, the doctor is all too often, pretty much in the dark as to what to do in specific situations.

The pharmacist can do a great deal to help him meet this kind of emergency. In fact, there are few people better qualified to provide the doctor with the facts needed for rational therapy.

Actually there's nothing new in the idea of the pharmacist's acting as a source of poison information. He has been helping in such situations since long before the term "poison control" was ever coined. It's just one aspect of his function as a consultant to the doctor and the public where drugs and chemicals are concerned.

But to best serve the physician in dealing with poison accidents, there are certain special sources of information the pharmacist should have available. These consist essentially of a few key books that contain the type of information the doctor wants when he's faced with a poison case.

The most common questions are "What's in it?" and "How toxic is it?" Once these questions are answered, the doctor usually knows where to go from there. But often he may also want detailed and authoritative advice on specific treatment readily available.

What then are the best sources of information for

- ▶ *identifying* the poison,
- ▶ offering the doctor a chance to make a *prognostic judgment* of his patient's chances and
- ▶ guiding him in getting *treatment measures* off on the right foot?

The number of useful books, pamphlets, and other publications on poisoning has grown enormously in recent years. No individual pharmacist can hope to keep his toxicology library even close to complete. The expense and time required would be too great. But such a project isn't beyond the means of a pharmacy college library.

Thus, the reference sources suggested here are divided into two groups—first, a short list of basic books that will probably give the most answers for the least outlay of money and then a much lengthier list that provides sources of specialized information. This is intended to serve mainly as a check list for libraries but the alert and conscientious individual pharmacist may gradually want to add some special books from the latter list to his own collection.

The longer listing also contains the names of various additional basic pharmacology, toxicology, and poison accident books which some people may prefer to substitute for those suggested in the primary bibliography.

With the short list, one should be able to dig out the answers to most of the questions that come up in poison emergencies. Even though these sources may not give the precise reply to all the countless queries that can be asked, they'll usually help in offering an educated guess. When exact information is absolutely essential, people at pharmacy colleges and in industry and government should be able to supply the answers to the real puzzlers from more specialized sources available to them.

for all-around information

Let's look next at some of the most useful books in these lists and see what kind of facts can be found in them.

For all-around information on handling poison accidents, no other single volume compares with *Clinical Toxicology of Commercial Products* by Gleason, Gosselin and Hodge. This definitive compendium is so crammed with useful information that those who learn to use it properly rarely require other aids. It is helpful for solving almost all types of toxicity problems with the exception of poisoning by plants and medicines.

Even in such cases, however, this book can be very useful for advising doctors on treatment once the identity of the plant poison or drug has been established through other sources.

Contrary to the scant "treatment" measures that most manuals offer, this book furnishes detailed expositions of pharmacological, physiological and biochemical bases for first aid, specific antidotal and supportive measures.

This volume also contains one of the longest available listings of trade-named products and their ingredients. But because the authors knew that trying to keep up with the flood of new household products is a hopeless task, they have added other sections that extend the usefulness of this "Trade Name Index."

There is, for example, a section on "General Formulations" that lists several hundred formulas for most of the different types of products commonly found in the home and on the farm. When the exact formula of a particular product is unavailable, the chemicals *likely* to be present in preparations of that kind can be determined from this section.

If the doctor prefers to find out exactly what chemicals he is dealing with, the best bet is to go right to the "horse's mouth"—the manufacturer himself. For such eventualities, this volume lists the names and addresses of hundreds of manufacturers in a "Manufacturer's Index."

for drug poisonings

Misuse of drugs and medicines

causes as many poisonings as all other chemicals combined, according to several surveys. The pharmacist is, of course, extremely well qualified to unearth all the necessary information for dealing with such cases. First, for ascertaining the contents of a product, a number of excellent compendia are available, including the *Modern Drug Encyclopedia*, the *American Drug Index* and the *Physicians' Desk Reference*. The latter compendium also contains a section on "Poisons and Antidotes," which on a smaller scale offers the sort of comprehensive information furnished in the Gleason, Gosselin and Hodge text.

Usually, however, the product briefs in the *Physicians' Desk Reference*, like the manufacturers' literature itself, are somewhat skimpy in their discussions of what is likely to happen in the event of massive overdosage. A few far-sighted drug manufacturers have published overdosage treatment information in pamphlet form. Some of these are listed later in this article. But, generally, detailed information on drug overdosage must be obtained from a text on pharmacology or toxicology.

pharmacology texts

A modern pharmacology book is a must for every pharmacist who wants to furnish physicians with poison information. For that matter, a pharmacist can make everyday use of such a text in fulfilling his function as a consultant on all aspects of drug therapy.

Of a number of excellent books available, the one that best combines encyclopedic information with clear, forceful exposition is, in my opinion, Goodman and Gilman's, *Pharmacological Basis of Therapeutics*. The book's only failing is that it isn't revised often enough to keep up with the rapid developments in drug therapy these days. So some may prefer one of the more recently published texts.

toxicology texts

In addition to a basic book on pharmacology and drug therapy, the pharmacist should have a text on toxicology handy. These vary widely in their size and the range of their contents. Some such as Dreisbach's *Handbook on Poisons* manage to cram a surprisingly large amount of useful information into a small space. This makes them especially useful for the doctor's bag.

Other books like *Legal Medicine, Pathology and Toxicology* by Gonzales and others are concerned, among other things, with such matters as the chemical identification of poisons. As such, they are probably not of prime utility to the pharmacist in most of the situations he meets. But the pharmacology educator called in to consult with police officials or lawyers may find this book of great value.

For most pharmacists, however, W.F. von Oettingen's work, *Poisoning, a Guide to Clinical Diagnosis and Treatments*, seems to offer the most happy medium between the small handbooks and the massive compendia mentioned above. This book is full of the kind of facts that a doctor would like to have in attempting to establish a diagnosis and in deciding what to do next.

specialized information

Not infrequently, the pharmacist may have to go to some unusual sources for specialized information. Thus, for example, he may have to consult a book on *industrial toxicology* to get a line on the toxicity of some solvent that has found its way into a "do-it-yourself" household product or a hobbyist's brew. So some books of this type are included in the longer list, though none of this class are so basic as to warrant inclusion in every pharmacist's collection.

Similarly, in some areas, poisonous plants may be enough of a problem to make it worthwhile to buy one or more of the suggested books on this aspect of the poison problem. But, generally, such situations are best met by calling in a special consultant—a pharmacy college pharmacognocist or an expert from an agriculture school or extension division.

On the other hand, certain of these specialized books offer so much information at such little cost that they should be on every pharmacist's shelf. In the field of pesticides, for example, the government booklet, *Clinical Memoranda of Economic Poisons*, can be obtained for the asking. It contains authoritative data useful in diagnosis and treatment of poisoning by pesticides.

For information on the chemical contents of thousands of such products, Frear's *Pesticide Handbook* often proves useful when the original label is unavailable. In paperback form, this annually revised compendium is quite inexpensive. So it is well worth having handy for the occasions when quick information on the identity of the ingredients in one of these relatively dangerous preparations is required.

pamphlets and reprints

While a library consisting of the suggested short list and some specialized works from the longer list can be very useful for furnishing poison information, many pharmacists may want to go a bit farther. To stay abreast of today's fast-breaking developments, it is wise to set up a system for surveying the literature in poisoning.

Pharmacy college pharmacologists can do this in co-operation with the school librarian. Then they can offer the fruits of these surveys to other pharmacists by publishing periodically lists of important recent review articles. Pharmacists who want to keep their files up to date can then obtain reprints from the authors who are usually happy to send them along without charge. ■

sources of information on accidental poisoning

Group I—*The books in this short list may serve as a basic foundation for the pharmacist's library of poison information.*

A. Management of accidental poisoning

1. Gleason, M.N., Gosselin, R.E., and Hodge, H.C., *Clinical Toxicology of Commercial Products, Acute Poisoning (Home and Farm)*, Williams and Wilkins Co., Baltimore, 1957.

2. Press, E., *Accidental Poisoning in Childhood*, Charles C Thomas, Springfield, Ill., 1956.

B. Drug products

1. *Physicians' Desk Reference to Pharmaceuticals and Biologicals*, 14th ed., Medical Economics, Inc., Oradell, N.J., 1960 (also contains a section on poisons and antidotes by Rodman, M.J., pp. 901–923).

2. Howard, M.E., *Modern Drug Encyclopedia and Therapeutic Index*, 7th ed., Drug Publications, Inc., New York, 1958.

C. Pharmacology and toxicology

1. Goodman, L.S., and Gilman, A., *The Pharmacological Basis of Therapeutics*, 2nd ed., The Macmillan Co., New York, 1955.

2. von Oettingen, W.F., *Poisoning, A Guide to Clinical Diagnosis and Treatment*, 2nd ed., W.B. Saunders Co., Philadelphia, 1958.

D. Pesticides or economic poisons

1. Frear, D.E.H., *Pesticide Handbook*, 12th ed., College Science Publishers, State College, Pa., 1960.

2. *Clinical Memoranda on Economic Poisons*, Technical Development Laboratories, Communicable Disease Center, U.S. Public Health Service, Savannah, Georgia, 1956.

Group II—*Other useful reference works which pharmacy libraries might want for fulfilling their poison information functions. Individual pharmacists may also supplement their basic books with some of these.*

A. Management of poison emergencies

1. Alway, Robert H., "Acute poisoning in childhood," *Brennemann's Practice*

of Pediatrics, vol. I., W.F. Prior Co., Inc., Hagerstown, Md., 1957.

2. Bensley, E.H., and Joron, G.E., *Handbook of Treatment of Acute Poisoning*, Renouf, Montreal, 1953.

3. Boston Poison Information Center, *Procedure Handbook for Management of Childhood Poisoning*, Mass. Chapter, American Academy of Pediatrics, Boston.

4. Brookes, V.J., and Alyea, H.N., *Poisons, Their Properties, Chemical Identification, Symptoms and Emergency Treatments*, D. Van Nostrand Co., Inc., New York, 1946.

5. Camp, W.J.R., "Toxicologic problems," *Modern Treatment*, Paul B. Hoeber, Inc., New York, 1953.

6. Conn, H.F. (ed.), *Current Therapy*, 1959, W.B. Saunders Co., Philadelphia (contains articles by several authors on management of poisoning by various drugs and chemicals).

7. Cooper, P., *Poisoning by Drugs and Chemicals*, Alchemist Publications, London, Eng., 1958.

8. Cullen, S.C., and Gross, E.G., *Manual of Medical Emergencies*, 2nd ed., The Year Book Publishers, Inc., Chicago, 1953.

9. Deichmann, W.B., *Signs, Symptoms and Treatment of Certain Acute Intoxications*, University of Miami, Coral Gables, Fla., 1955.

10. DeSanctis, A.G., and Varga, D., *Handbook of Pediatric Medical Emergencies*, 2nd ed., C.V. Mosby Co., St. Louis, 1956.

11. Dreisbach, R.H., *Handbook of Poisons*, Lange Medical Publications, Los Altos, Calif., 1955.

12. Kaye, S., *Handbook of Emergency Toxicology*, Charles C Thomas, Springfield, Ill., 1954.

13. Lucas, G.H.W., *The Symptoms and Treatment of Acute Poisoning*, Macmillan Co., New York, 1953.

B. Pharmacology and Toxicology Texts

1. Beckman, H., *Drugs—Their Nature, Action and Use*, W.B. Saunders Co., Philadelphia, 1958.

2. Drill, V.A. (ed), *Pharmacology in Medicine*, 2nd ed., McGraw Hill, New York, 1957.

3. DuBois, K.P., and Geiling, E M.K., *Textbook of Toxicology*, Oxford University Press, New York, 1959.

4. Fairhall, L.T., *Industrial Toxicology*, 2nd ed., Williams and Wilkins Co., Baltimore, 1957.

5. Garner, R. J., *Veterinary Toxicology*, Williams and Wilkins Co., Baltimore, 1957.

6. Gonzales, T.A., Vance, M., Helpern, M., and Umberger, E.J., *Legal Medicine, Pathology and Toxicology*, 2nd ed., Appleton-Century-Crofts, Inc., New York, 1954.

7. Grollman, A., *Pharmacology and Therapeutics*, 4th ed., Lea and Febiger, Philadephia, 1960.

8. Hamilton, A., and Hardy, H.L., *Industrial Toxicology*, 2nd ed., Paul H. Hoeber, Inc., New York, 1949.

9. Krantz, J.C., and Carr, C.J., *Pharmacological Principles of Medical Practice*, 4th ed., Williams and Wilkins Co., Baltimore, 1958.

10. Patty, F.A., *Industrial Hygiene and Toxicology*, vols. 1 and 2, Interscience Publishers, New York, 1948–49.

11. Sollman, T., *A Manual of Pharmacology*, 8th ed., W.B. Saunders Co., Philadelphia, 1957.

12. Spector, W.S. (ed.), *Handbook of Toxicology*, vols. I–V, W.B. Saunders Co., Philadelphia, 1955–1959.

13. Thienes, C.H., and Haley, T.J., *Clinical Toxicology*, 3rd ed., Lea and Febiger, Philadelphia, 1955.

C. Drug texts and compendia

1. *Accepted Dental Remedies*, 21st ed., American Dental Assn., Chicago, 1956.

2. *American Druggist Blue Book*, American Druggist, New York, 1960.

3. *Drug Topics Red Book*, Topics Publishing Co., Inc., New York, 1960.

4. *Facts and Comparisons* (Looseleaf), Kastrup, E.K., St. Louis, Mo., 1953 to date.

5. Martin, E.W., and Cook, E.F., *Remington's Practice of Pharmacy*, 11th ed., Mack Publishing Co., Easton, Pa., 1956.

6. *Merck Index of Chemicals and Drugs*, 7th ed., Merck and Co., Inc., Rahway, N.J., 1960.

7. *National Formulary*, 10th ed., American Pharmaceutical Assn., Washington, D.C., 1955.

8. *New and Nonofficial Drugs*, Council on Drugs, American Medical Assn., J.B. Lippincott Co., Philadelphia, 1960.

9. Osol, A., and Farrar, G.E., *Dispensatory of the United States of America*, 25th ed., J.B. Lippincott Co., Philadelphia, 1955.

10. *Pharmacopeia of the United States*, XV revision, Mack Publishing Co., Easton, Pa., 1955.

11. Stephenson, H.C., and Mittlestead, S.G., (eds.), *Veterinary Drug Encyclopedia and Therapeutic Index*, 4th ed., Drug Publications, Inc., New York, 1956.

12. *Unlisted Drugs*, Special Libraries Assn., New Brunswick, N.J., 1949 to date.

13. Wilson, C.O., and Jones, T.E., *The American Drug Index*, J.B. Lippincott Co., Philadelphia, 1960.

D. Sources of specialized information

1. *Industrial chemicals*

Browning, E., *Toxicology of Industrial Organic Solvents*, Chemical Publishing Co., New York, 1953.

Fleming, A.J., D'Alonzo, C., and Zapp, J.A., *Modern Occupational Medicine*, Lea and Febiger, Philadelphia, 1954.

Lehmann, K.B., and Flury, F., (eds.), *Toxicology and Hygiene of Industrial Solvents*, Williams and Co., 1943.

Sax, N.I., *Dangerous Properties of Industrial Materials*, Reinhold Publishing Co., New York, 1957.

Toxicological Reviews, American Petroleum Inst., New York, 1954.

von Oettingen, W.F., "The Aromatic Amino and Nitro Compounds, Their Toxicity and Potential Dangers A Review of the Literature," *Public Health Bulletin No. 271*, Government Printing Office, Washington, D.C., 1941.

von Oettingen, W.F., "The Aliphatic Alcohols: Their Toxicity and Potential Dangers," *Public Health Bulletin No.* 281, Government Printing Office, Washington, D.C., 1943.

von Oettingen, W.F., "The Halogenated, Olefinic, Cyclic, Aromatic, and Aliphatic Aromatic Hydrocarbons including the Halogenated Insecticides, Their Toxicity and Potential Dangers," *Public Health Service Bulletin No.* 414, Government Printing Office, Washington, D.C., 1955.

2. *Pesticides and agricultural chemicals*

Brown, A.W.A., *Insect Control by Chemicals*, John Wiley & Sons, Inc., New York, 1951.

Conley, B.E., "Poisoning by Pesticides," *Modern Treatment*, Paul Hoeber, Inc., New York, 1953.

Fisher, E.H. (ed.), *Entoma*—A *Directory of Insect and Plant Pest Control*, 13th ed., Dept. of Entomology, University of Wisconsin, Madison, 1959–60.

Guide to Chemicals Used in Crop Protection, Science Service Laboratory, London, Ontario, 1955.

Hanna, L.W., *Handbook of Agricultural Chemicals*, Forest Grove, Ore., 1955.

Metcalf, R.L., *Organic Insecticides, Their Chemistry and Mode of Action*, Interscience Pub. Inc., New York, 1955.

West, T.F., Hardy, J.E., and Ford, J.H., *Chemical Control of Insects*, John Wiley & Sons, Inc., New York, 1952.

3. *Reactions to food, drug, plant, and animal substances*

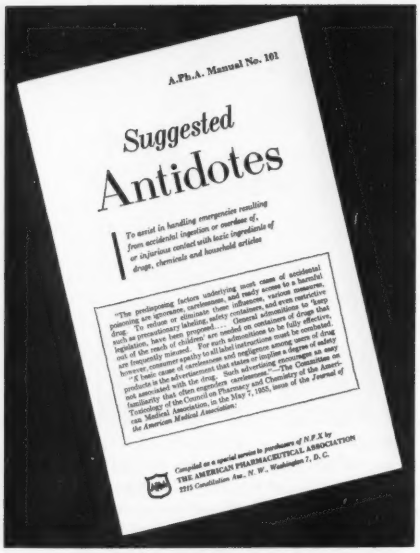
Alexander, H.L., *Reactions with Drug Therapy*, W.B. Saunders Co., Philadelphia, 1955.

Buckley, E.E., and Porges, N. (eds.), *Venoms*, American Assn. for the Advancement of Science, Washington, D.C., 1956.

Dack, G.M., *Food Poisoning*, 3rd ed., Chicago University Press, Chicago, 1956.

Dewberry, E.B., *Food Poisoning, Its Nature, History and Causation*. Leonard Hill, Ltd., London, Eng., 1950.

Morton J. Rodman, chairman of the department of biological science at Rutgers University college of pharmacy, has been concerned for many years with the problem of accidental poisoning by drugs and chemicals. He has published numerous papers and articles on this subject as well as an annual review of clinical toxicology in the last five editions of the *Physicians' Desk Reference*. Dr. Rodman received his BS degree in pharmacy at the Massachusetts College of Pharmacy and earned his PhD at Georgetown University medical school and carried on research there for three years in human thermoregulatory mechanisms.


A.Ph.A. Manual No. 101
Suggested
Antidotes
To assist in handling emergencies resulting from accidental ingestion or overdose of, or injurious contact with toxic ingredients of drugs, chemicals and household articles
Compiled as a special service to purchasers of N.F.X by
THE AMERICAN PHARMACEUTICAL ASSOCIATION
2215 Constitution Ave., N. W., Washington 7, D. C.

APhA and Poison Control

APhA Manual 101, entitled *Suggested Antidotes* is a 32-page booklet providing a list of drugs, chemicals and household articles with cross references to toxic ingredients and antidotes. Price one dollar per copy, from the American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington 7, D.C.

Publication of APhA Manual 101, *Suggested Antidotes*, and its inclusion in National Formulary X in 1955 was just one of many contributions made by the AMERICAN PHARMACEUTICAL ASSOCIATION in a century of poison control programs. Long before states had poison registration laws, APhA recognized the hazards involved in the absence of such statutes and fought for their passage in all states. As a precautionary measure, APhA told pharmacists to take the initiative and register poison sales until the laws were placed on the books in their respective states.

At the sixth annual meeting in Philadelphia in September, 1857, APhA issued an "Appeal to Druggists and Pharmaceutists in the U.S. in Regard to the Sale of Poisons." This followed a report by an APhA committee on "The Subject of the Sale of Poisons." The special committee had reported an increased interest in poisons due to the numerous cases of criminal and accidental poisoning that had occurred and the public's awareness of a need for poison controls.

To meet the problem, APhA asked the pharmacist to adopt rules in poison dispensing to protect the public, both from accidental ingestion and from the use of poisons for unlawful and criminal purposes. Other suggestions made in 1857 concerned the proper labeling of poisons, recording the sales of poisons and cautioning buyers on the use of the substances.

state laws needed

At APhA's 1895 annual meeting in Denver, the committee on resolutions reported that statistics obtained by APhA on the number of deaths from poison emphasized the necessity of registration of poison sales by the pharmacist. The committee further noted that registration of poison sales was not yet universal in pharmacy practice and was not required by the laws of all the states.

Thus in 1895, the ASSOCIATION resolved that all pharmacists should record the date of purchase, the name of the purchaser, the name and quantity of the article and the purchaser's statement as to the use for which he obtained the poison. Furthermore APhA noted that no state should remain without laws requiring pharmacists to register poison sales and that in the absence of registration laws, the pharmacist should take upon himself the responsibility to insure the registration of the sale of poisons.

code for poison sales

In 1922, APhA resolved to incorporate the recommendations presented before the Section on Education and Legislation by Dr. James H. Beal in a paper entitled, "Why Not a Standard Code of Regulations for the Sale of Poisons?" The resolution approved the appointment of a committee of five representing retail pharmacy, wholesale pharmacy, manufacturing pharmacy, pharmaceutical education and medicine to formulate a schedule of poisons.

The committee on potent and toxic drugs of the National Drug Trade Conference in 1933 prepared a reference list of drugs and chemicals that should

(*Continued from page 151*)

Meyler, L., *Side Effects of Drugs*, Elsevier Publishing Co., 1952.

Muenscher, W.C., *Poisonous Plants of the United States*, 2nd ed., The Macmillan Co., 1951.

Pratt, R., and Youngken, H.W., Jr., *Pharmacognosy—the Study of Natural Drug Substances and Certain Allied Products*, J.B. Lippincott, Philadelphia, 1951.

Rosenheim, M.L., and Moulton, R. (eds.), *Sensitivity Reactions to Drugs*, Charles C Thomas, Springfield, Ill., 1958.

Youngken, H.W., Sr., *Textbook of Pharmacognosy*, 6th ed., The Blakiston Co., Philadelphia, 1950.

4. *Chemical specialties (ingredient identification)*

American Conference of Governmental Industrial Hygienists, *Trade Index*, Cincinnati, 1955.

Bennett, H., *The Chemical Formulary*, Chemical Publishing Co., (many volumes, various dates).

De Navarre, M.G., *Chemistry and Manufacture of Cosmetics*, D. Van Nostrand Co., Inc., New York, 1941.

Florida Pediatric Society, *Poison Information File Card*, Florida Pediatric Society and Florida Chapter, American Academy of Pediatrics, 1957.

Greenberg, L.A., and Lester, D., *Handbook of Cosmetic Materials*, Interscience Publishers, Inc., New York, 1954.

Harry, R., "Cosmetic Materials," Vol. II, *The Principles and Practice of Modern Cosmetics*.

Haynes, W., *Chemical Trade Names and Commercial Synonyms*, 2nd ed., D. Van Nostrand Co., Inc., 1955.

Lesser, M.A., *Modern Chemical Specialties*, McNair-Dorland Co., New York, 1950.

McCutcheon, J.W., *Synthetic Detergents and Emulsifiers*, McNair-Dorland, New York, 1952. (Brought up-to-date by later articles in *Soap and Chemical Specialties*—reprints available from John W. McCutcheon, Inc., 475 Fifth Ave., New York, N.Y.).

Thomas' Register of American Manufacturers, Thomas Publishing Co., New York, 1959.

Zimmermann, O.T., and Lavine, I., *Handbook of Material Trade Names*, 2nd ed., Industrial Research Service, 1953 (supplement, 1955).

Group III—*Pamphlets, brochures, charts and check lists—New materials to help keep up with the latest and best thinking on poison control are constantly becoming available from varied sources; here are some examples:*

A. American Cyanamid Co., *Phosphate Ester Insecticides*

B. American Pharmaceutical Assn., *Suggested Antidotes (Manual No. 101)*, Washington, D.C.

C. Metropolitan Life Insurance Co., *A Bibliography of Professional Articles and*

He can climb before he's able to read that "Poison" is on the label.

bear the poison label when dispensed other than upon the prescription of a physician. This was done, the committee said, because of the impossibility "of framing a definition for poison which will serve as an accurate guide in every case and because of the unsatisfactory condition of many state poison laws."

curb accidental poisonings

Aroused by the large number of deaths of children attributed to accidental poisoning annually, THIS JOURNAL in June, 1954 urged pharmacists to join forces and help to reduce these needless fatalities. Said the JOURNAL:

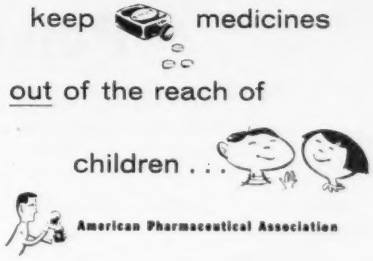
> **The pharmacist is in a strategic position to caution those who purchase toxic substances or who obtain prescriptions with ingredients that would be toxic to a child. This is a service that no one else is as well qualified as the pharmacist to give to the public. It can stimulate an awareness in the public of the safety factor that is available when making purchases at the pharmacy.**

The public benefited from APHA's tireless vigil and fight for poison control and poison information long before poison laws were passed and made effective in the various states. Although the pharmacy is not now the first-aid station it used to be, pharmacists are still considered prime sources of information when accidents occur and help is needed.

Since the prime difficulty in treating cases of accidental poisoning is identifying the toxic substance which is causing the injury, it is essential to have a list of possible ingredients of such products so physicians can determine the treatment. Many household products, such as insecticides, rodenticides, polishes and cosmetics contain toxic substances. APHA Manual 101—which is still available at one dollar per copy—was published to serve this purpose.

public relations program

APHA has also actively participated in public relations programs to help educate the public about the dangers of accidental poisoning. For example, as part of the 1956 National Pharmacy Week program, APHA made available a TV slide and spot announcements warning: "Keep Medicines Out of Reach of Children" (*see adjoining illustration*). Every television station executive in the U.S. received a letter from APHA calling his attention to the fact that "thousands of young children have suffered injury, and many have died, as the result of consuming medicines that were carelessly placed within their reach," and urging wide use of the slide and these spot announcements:



(20 seconds)

Your pharmacist urges that you keep medicines out of the reach of children. Follow his suggestion and store all medicines in places that cannot be reached by the youngsters in your family. An ounce of prevention is worth a pound of cure. We are glad to make this announcement in cooperation with your pharmacist who constantly works for better community health.

× × ×

(10 seconds)

Play safe—always keep medicines out of the reach of children. Fewer accidents mean better community health. We join your pharmacist in emphasizing this warning.

× × ×

A limited number of these slides is still available from the AMERICAN PHARMACEUTICAL ASSOCIATION at 50 cents postpaid.

credits

Illustrations and photographs included in this issue through the courtesy of the following: Joseph Bowen, Washington D.C., cover; Arizona Public Health News, p. 134; Virginia State Department of Health, cartoons on pages 153–161.

Other Publications, 1 Madison Ave., New York 10, N.Y.

D. Product Overdosage Information

1. Abbott Laboratories—*Symptoms and Treatment of Overdosage with Selected Abbott Products.*
2. Ciba—*Pharmaceutical Products.*
3. Smith, Kline & French Laboratories—*Product and Overdosage Information.*

E. Shell Chemical Corp., Agricultural Chemical Division

1. *Handbook of Methyl Parathion Formulations.*
2. *Handbook of Aldrin, Dieldrin, and Eldrin Formulations.*
3. *Handbook of Phosdrin Insecticide Formulations.*

F. U.S. Dept. of Agriculture, booklets on poisonous plants in various parts of the country.

G. U.S. Dept. of Health, Education and Welfare, FDA, Bureau of Medicine, *Accident Poison Sources of Information on Composition of Brand Name Household Preparations,* prepared by Kelley, E.C., and Kerwin, I., Jan. 1958.

labels, closures, cabinets

(*Continued from page 135*)

ington, D.C. In attendance were representatives of 12 leading medicine cabinet manufacturers who formed a council to explore the development of standards and specifications for such a locking device and consider promotional aspects of such a cabinet.

Dr. A.L. Chapman, assistant surgeon general and chief of the USPHS division of special health service, Dr. Howard M. Cann and Henry L. Verhulst of the National Clearinghouse for Poison Control Centers and Dr. Howard Prentice, executive vice-president of the Proprietary Association, addressed the meeting. Among those present at the session were representatives of the Federal Housing Administration, National Associations of Home Builders, Pharmaceutical Manufacturers Association, American Academy of Pediatrics, and AMERICAN PHARMACEUTICAL ASSOCIATION. Manufacturers represented included the following companies—Adams Manufacturing, Columbia Metal Box, General Bathroom Products, General Products, Philip Carey Manufacturing, Zenith Metal Products, Grote Manufacturing, Hess, Kent, F.H. Lawson, Charles Parker and Albert H. Voigt.

Labelling, closures and cabinets are obviously problems which deserve and demand the attention of all concerned. Labelling must be given special attention by those who prepare label copy and those who are concerned with legislative developments. The development and wider use of better safety closures should receive careful study by designers of containers and closures as well as by drug manufacturers. A safety medicine cabinet is now in the initial stages of development.

Poison Control Centers

Here is the list of poison control centers in the United States together with their addresses, directors and telephone numbers. This material has been furnished APhA for publication in this special issue by the National Clearinghouse for Poison Control Centers. The listing includes those facilities which provide the medical profession on a round-the-clock basis with information on the prevention and treatment of accidents involving ingestion of poisonous and potentially poisonous substances.

city	director and address	telephone
Alabama		
Anniston	Bill Stephenson Anniston Memorial Hospital P.O. Box 390	AD 7-5421
Athens	Jeanne Rodway Athens-Limestone Hospital 105 Sanders St.	952
Birmingham	University of Alabama Medical Center 619 South 19th St.	FA 3-3531
Florence	Harry Simpson, Jr., MD Eliza Coffe Memorial Hosp. 600 W. Alabama St.	AT 2-8321
Gadsden	Charles W. Roe Baptist Memorial Hospital 1136 Sixth Ave.	LI 6-5211
Mobile	Eugene R. Celano, MD Mobile General Hospital St. Anthony & Broad Sts.	HE 8-1631 Night: GR 9-2723
Alaska		
Anchorage	James A. Hunter, MD Alaska Native Hospital Public Health Service Box 7-741	BR 5-9101
Fairbanks	Anna Barrigan (Mrs.) Northward Drug Box 1207	2103, 3390 Night: 2875
Arizona		
Ajo	O.W. Friske, MD Phelps Dodge Hospital	DU 7-7261
Douglas	C.W. Ahl, MD Douglas Hospital 610 Ninth St.	EM 4-2421
Flagstaff	Doyle R. Taylor Flagstaff Hospital Route 1, Box 10	PR 4-7151
Ganado	W.D. Spining, MD Sage Memorial Hospital Ganado Mission	2103 Night: 2106
Holbrook	Violet E. Coplan Holbrook Municipal Hospital 152 W. Hopi Drive	JA 4-3731 Night: JA 4-6673
Kingman	Mae McMullen Mohave General Hospital 301 W. Beale	SK 3-2112
McNary	G. Merkel, MD McNary Hospital	200
Phoenix	Paul B. Jarrett, MD Good Samaritan Hospital 1033 E. McDowell Rd.	AL 2-6611
	Paul B. Jarrett, MD Maricopa County Medical Society 2025 North Central Ave.	AL 8-8486
	Maurice Rosenthal, MD Memorial Hospital 1200 S. 5th Ave.	AL 2-5911
	Frederick E. Beckert, MD St. Joseph's Hospital 350 W. Thomas Road	CR 7-6611
Prescott	Evelyn Beverly Prescott Community Hospital	HI 5-2700
Safford	R.S. Keller, MD Safford Inn Hospital 625 Central Ave.	126
Tucson	A.L. Picchioni, PhD College of Pharmacy University of Arizona	MA 4-8181 Night: MA 4-6457
	Edward H. Kraus Pima County General Hospital 2900 South 6th Ave.	MA 2-3301 Night: EA 7-3714
Arizona, cont.		
Tucson	Sister Catherine Mary St. Mary's Hospital St. Mary's Rd.	MA 2-5833
	Virginia Cobb, MD Tucson Medical Center E. Grant Rd. at Beverly Blvd.	EA 7-5461
Winslow	L. Christian Moore Winslow Memorial Hospital 116 E. Hillview St.	1581 Night: 1580 or 1474J
Yuma	John F. Stanley, MD Parkview Hospital Ave. A & 24th St.	SU 2-1811
Arkanas		
Little Rock	B.B. Kumar, MD Department of Pediatrics University of Arkansas Medical School 4301 W. Markham	MO 6-9461
Osceola	Lorenzo D. Massey, MD Osceola Memorial Hospital 601 Lee Ave. W.	LO 3-2611
California		
Fresno	J.J. Bocian, MD Fresno Community Hospital 1234 S St.	AD 3-0911 Night: AD 3-7547
Los Angeles	William H. Bucher, MD Children's Hospital Society 4614 Sunset Blvd.	NO 4-2121
Oakland	David Singman, MD Alameda-Contra Costa Medical Association 6230 Claremont Ave.	OL 2-8171
	William Ingram, MD Children's Hospital of the East Bay 5105 Dover St.	OL 4-5600
Orange	Wendell T. Hill, Jr. Orange County General Hosp. 101 Placentia	KE 8-2331
San Francisco	Erwin Sage, MD Central Emergency Hosp. 135 Polk	HE 1-2800
	George Bates, MD Children's Hospital 3700 California St.	SE 1-3314
San Jose	Dwight Bissell, MD San Jose Emergency First Aid Station	CY 2-3141, Ext. 311, 312
Canal Zone		
Balboa Heights	Daniel Hirschl, MD Gorgas Hospital Box 503	BA 2600
Colorado		
Aurora	Kenneth C. Suher L.K. Professional Pharmacy 9240 E. Colfax Ave.	EM 6-1531 Night: EM 6-2165
Denver	LeGrand B. Byington, MD Dept. of Health & Hospitals 6th & Cherokee Sts.	CH 4-6969
Connecticut		
Bridgeport	Russell H. Pope, MD Bridgeport Hospital 267 Grant St.	ED 4-0131
	Arthur M. Ginzler, MD St. Vincent's Hospital 2820 Main St.	FO 6-3601
Hartford	Stevens J. Martin, MD St. Francis Hospital 114 Woodland St.	CH 9-8281

Connecticut, cont.

Hartford	Arthur S. Blank State Department of Health State Office Building	JA 7-6341 Ext. 456
Middletown	Clarence W. Harwood, MD Middlesex Memorial Hospital 28 Crescent St.	DI 7-2531
New Britain	Neil D. Josephson, MD New Britain General Hosp. 92 Grand St.	BA 3-2761
Norwalk	Noel Conrade, MD Norwalk Hospital 24 Stevens St.	TE 8-8411
Stamford	Angelo Mastrangelo, Jr., MD Stamford Hospital 190 W. Broad St.	FI 8-2681
Waterbury	Morris Coshak, MD St. Mary's Hospital 56 Franklin St.	PL 6-8351

Delaware

Wilmington	Elmer F. Fantazier, MD 501 W. 14th St.	OL 5-3389

District of Columbia

Washington	Jose R. Puig, MD Children's Hospital 13th & W Sts., N.W.	DU 7-4220, Ext. 250

Florida

Bradenton	Irving Hall, MD Manatee Veterans Memorial Hospital 206 2nd St.	4-0391
Daytona Beach	Joel V. McCall, Jr., MD Halifax District Hospital Lakeshore Drive	CL 2-5561
Fort Lauderdale	John S. Fifer, MD North Broward General Hosp. 1612 S.E. First Ave.	JA 4-0541
Fort Myers	A. Louis Girardin, MD Lee Memorial Hospital Box 791	ED 2-1141
Gainesville	William Hadley, MD Alachua General Hospital 315 S.W. 10th St.	FR 2-4321
	Donald V. Eitzman, MD, Medical Director Kurt M. Dubowski, PhD, Scientific Director Teaching Hospital and Clinics University of Florida	FR 6-3211
Jacksonville	Ray O. Edwards, Jr., MD St. Vincent's Hospital Barrs & St. Johns Ave.	EV 9-7761
Lakeland	James R. Boulware, Jr., MD Morrell Memorial Hospital Lakeland Hills Blvd. Box 480	MU 6-1111
Miami	George Lister, MD Jackson Memorial Hospital 1700 N.W. Tenth Ave.	FR 1-9611
Miami Beach	Robert Grayson, MD Mt. Sinai Hospital 4300 Alton Rd.	JE 2-3611
Naples	Ethel H. Trygstad, MD Naples Community Hospital 350 7th St. N.	MI 2-2151
Ocala	W.C. Butscher, MD Munroe Memorial Hospital 1410 S. Orange St.	MA 2-4211
Orlando	Charlotte Maguire, MD Orange Memorial Hospital Emergency Room 1416 S. Kuhl Ave.	GA 3-5511
Panama City	John J. Benton, MD Memorial Hosp. of Bay County 600 N. MacArthur Ave.	SU 5-7411
Pensacola	Frank L. DeBusk, MD Baptist Hospital 1000 West Moreno St.	HE 8-5423

Florida, cont.

St. Petersburg	Walter L. Schafer, MD Mount Park Hospital 7th St. & 6th Ave. S.	5-1181
Sarosota	Henry G. Morton, MD Sarosota Memorial Hosp. 1901 Arlington Ave.	RI 6-1181
Tallahassee	George S. Palmer, MD Tallahassee Memorial Hosp. N. Magnolia Dr. & Miccosukee Rd.	2-8060
Tampa	David Baumann, MD Tampa General Hospital Davis Islands	8-0711
West Palm Beach	Lawrence R. Leviton, MD Good Samaritan Hospital 1300 N. Dixie Highway	TE 3-1741

Georgia

Albany	Mack Sutton, MD Phoebe Putney Memorial Hosp. 417 3rd Ave., P.O. Box 1151	HE 6-5741
Athens	Rheta Leverett Athens General Hospital 797 Cobb St.	LI 8-4121

A soft drink bottle it may seem but in it's really kerosene.

Atlanta	Frank Wilson Grady Memorial Hospital 36 Butler St., S.E.	JA 3-4711, Ext. 567
Augusta	James Bennett, MD University Hospital University Pl.	PA 2-7731, Ext. 357
Columbus	J.A. Thrash, MD The Medical Center 19th St. & 18th Ave.	FA 2-2521
Savannah	Daniel E. Gay Memorial Hospital Waters Ave. at 63rd St.	EL 5-3200, Ext. 291
Valdosta	Robert L. Stump, Jr., MD Pineview General Hospital Pendleton Park	CH 2-3450, Ext. 26
Waycross	R.J. Weinzettel Memorial Hospital 410 Darling Ave.	AT 3-3030, Ext. 33

Hawaii

Honolulu	William Myers, MD Kauikeolani Children's Hosp. 226 N. Kuakini	54-563

Idaho

Pocatello	Donald O. Shiffman College of Pharmacy Idaho State College	CE 3-2160, Ext. 252 or 254 Night: CE 2-7204 or CE 2-7697

Illinois

Aurora	Sister M. Cherubim St. Charles Hospital New York & 4th Sts.	TW 7-8714

Illinois, cont.

Belleville	H.L. Lange, MD The Memorial Hospital North Park Drive	AD 3-7750
Berwyn	Ronald B. Mack, MD MacNeal Memorial Hospital 3249 S. Oak Park Ave.	GU 4-2211

Moth balls shouldn't be so handy 'cause to some they look like sugar candy.

Bloomington	William Dunn Mennonite Hospital 807 N. Main St.	38241
	Edward P. Wood, MD St. Joseph's Hospital 724 W. Jackson St.	43281
Cairo	Sister M. Emerita St. Mary's Hospital 2020 Cedar St.	2400
Canton	James M. Gillman, Jr. Graham Hospital Assn. 210 W. Walnut St.	524, Ext. 45 Night: 3515
Champaign	Max Appel, MD Burnham City Hospital	FL 2-4226
Chicago	Joseph Christian, MD Mercy Hospital 2537 S. Prairie Ave.	VI 2-4700, Ext. 10
	Frederick L. Phillips, MD Presbyterian-St. Luke's Hospital 1735 W. Congress Parkway	SE 8-4411
Danville	Lakeview Hospital 812 N. Logan Ave.	HI 6-7200
	W. Robert Elghammer, MD St. Elizabeth Hospital 602 Green St.	HI 2-6300
Decatur	Warren Mann Decatur-Macon Hospital 2300 N. Edward St.	9-2911
	St. Mary's Hospital 220 S. Webster St.	9-7433
Effingham	St. Anthony's Hospital 503 N. Maple St.	850
Evanston	F. Frye Winfield, MD Community Hospital 2040 Brown Ave.	UN 4-9400
	Robert A. McGuigan, MD Evanston Hospital 2650 Ridge	UN 9-2500
	St. Francis Hospital 355 Ridge	DA 8-2200
Galena	Albert L. Hildinger, MD JoDaviess County Health Dept. 123 S. Main Street	263 Night: 208
Granite City	St. Elizabeth's Hospital 2100 Madison Ave.	TR 6-2020
Harvey	Ingalls Memorial Hospital 155th St. & Page Ave.	ED 3-2300

Illinois, cont.

Highland Park	Kalman I. Perlman Highland Park Hosp. Foundation 718 Glenview Ave.	ID 2-8000
Hinsdale	Maxine Bailey Hinsdale Sanitorium & Hosp. 120 N. Oak St.	FA 3-2100, Ext. 243 Night: Ext. 551
Joliet	Felix A. Tornabene, MD Will County Health Dept. 21 E. Van Buren St.	6-6295
	St. Joseph's Hospital 372 N. Broadway	6-5421
	Paul W. Kempe Silver Cross Hospital 600 Walnut St.	6-6101
Kankakee	Delbert Judd, MD St. Mary's Hospital 192 S. 5th St.	WE 9-2531
LaSalle	Sister M. Dolorita St. Mary's Hospital 1015 O'Connor Ave.	CA 3-0607
Libertyville	Conell Memorial Hospital Cleveland & Stewart Aves.	2-2900
Lincoln	R. Lynn Ijams, MD The Abraham Lincoln Memorial Hospital 315 8th St.	1360
Normal	Elizabeth Bates Brokaw Hospital Franklin Ave.	3-8231
Olney	Richland Memorial Hosp. East Locust St.	EX 3-2131
Ottawa	Alan Neufeld, MD Ryburn Memorial Hospital 701 Clinton St.	HE 3-3100
Park Ridge	Lutheran General Hospital 1775 Dempster St.	
Peoria	Methodist Hospital 211 N. Glenn Oak Ave.	26621
	Sister Frances Marie St. Francis Hospital 530 N. Glen Oak Ave.	4-7731, Ext. 514 & 515
Peru	Elizabeth Kidd Peoples Hospital 925 West St.	3300 Night: 3301
Quincy	Mary Scranton Blessing Hospital 1005 Broadway	BA 2-3270
	Marguerite Peters St. Mary's Hospital 1400 Broadway	BA 3-1200
Rockford	William L. Langewisch, MD Rockford Memorial Hospital 2400 N. Rockton Ave.	WO 8-6861
	Karl B. Hansen, MD Swedish-American Hospital 1316 Charles St.	WO 8-6898
	St. Anthony Hospital 1401 E. State St.	WO 2-3771
Springfield	George K. Hendrix Memorial Hospital 1st & Miller Sts.	LA 2-3361
	J. Keller Mack, MD St. John's Hospital 701 E. Mason	2-6881, Ext. 309
Urbana	Spencer G. Thompson, MD Carle Hospital 602 W. University Ave.	EM 7-6671
Waukegan	Julius J. Wineberg, MD Victory Memorial Hospital 1324 N. Sheridan Rd.	MA 3-3000

Indiana

East Chicago	Jack Troy, MD St. Catherine Hospital 4321 Fir St.	EX 7-3080
Elkhart	C. Richard Yoder, MD Elkhart General Hospital 600 East Blvd.	JA 5-3530, Ext. 224

Indiana, cont.

Hammond	Herbert I. Arbeiter, MD St. Margaret Hospital 25 Douglas St.	WE 2-2300
Indianapolis	Henry Mack Parrish, MD General Hospital 960 Locke St.	ME 6-6331
	T.E. Sullivan Indiana State Board of Health 1330 W. Michigan St.	ME 4-8433, Ext. 226
Marion	Leo L. Diamond, MD Marion General Hospital Wabash & Euclid Ave.	NO 4-2313

Iowa

Des Moines	Everett A. Nitzke, MD Raymond Blank Memorial Hosp. 1200 Pleasant St.	AT 8-7271

Kansas

Dodge City	R.D. Boles, MD Trinity Hospital 1107 6th St.	HU 3-3116
Emporia	D.R. Davis, MD Newman Memorial Hospital 12th & Chestnut St.	DI 2-7120
Great Bend	D.G. Shivel, MD Saint Rose Hospital 3504 Broadway	GL 3-3541
Hays	J.H. Hickman, Jr., MD Hadley Memorial Hospital 201 E. 7th St.	MA 4-3441
Kansas City	Francis L. Brochu, MD Bethany Hospital 51 N. 12th St.	MA 1-6600
Lawrence	Vernon L. Branson, MD Lawrence Memorial Hospital 325 Maine St.	VI 3-3680
Manhattan	W.R. Kirk Riley County Hospital Sunset Ave. & Platt St.	JE 9-2244
Salina	Frederick A. Gans, MD St. John's Hospital 139 N. Penn St.	TA 7-5591
Topeka	Evan Wright Food & Drug Administration State Board of Health Topeka Ave. at 10th	CE 5-0011, Ext. 753
	William H. Crouch, MD Stormont-Vail Hospital 10th & Washburn Sts.	CE 5-2361
Wichita	T.C. Hurst, MD Wesley Hospital 550 N. Hillside Ave.	MU 2-1511

See that deadly bottle of bleach? It shouldn't be within Susie's reach.

Kentucky

Ashland	C.T. Mansfield King's Daughters Hospital 2201 Lexington Ave.	EA 4-4121
Bowling Green	Melvin Taylor, Jr. Bowling Green-Warren County Hospital Reservoir Park	VI 3-4376
Fort Thomas	Paul J. Vaal St. Lukes Hospital 85 N. Grand Ave.	HI 1-6100, Ext. 72
Harlan	Doane Fischer, MD Harlan Memorial Hospital Box 960	2020
Lexington	Carl E. Beck Central Baptist Hospital 1740 S. Limestone St.	4-8820
Louisville	William Curtis Adams, MD Department of Pediatrics 323 E. Chestnut St.	JU 2-1831
Paducah	Victor Wallace Western Baptist Hospital 2501 Kentucky Ave.	5-6361, Ext. 21 Night: Ext. 40

Louisiana

New Orleans	T.R. Pfundt, MD Department of Pediatrics L.S.U. Medical School 1542 Tulane Ave.	MA 2311
Ruston	Bruce Everist, MD Green Clinic 709 South Vienna St.	AL 5-3690

Maryland

Baltimore	J. Julian Chisolm, MD Baltimore City Hospital 4940 Eastern Ave.	DI 2-5400
	Dennis Whitehouse, MD Johns Hopkins Hospital 601 N. Broadway	OR 5-5500, Ext. 511 Night: Ext. 756
	Samuel Bessman, MD University of Maryland Hospital Redwood & Green Sts.	LE 9-0320
Bethesda	Charles J. Savarese, MD Suburban Hospital 8600 Old Georgetown Rd.	OL 6-6000
Hagerstown	W.T. Layman, MD Washington County Hospital King & Antietam Sts.	RE 3-3000
Salisbury	William C. Morgan, MD Peninsula General Hospital Locust St. & S. Division	PI 9-3161

Massachusetts

Boston	Robert J. Haggerty, MD Children's Medical Center 300 Longwood Ave.	BE 2-2120
New Bedford	William R. Collins, MD St. Luke's Hospital 101 Page St.	WY 6-6711, Ext. 275
Springfield	John Ayres, MD Municipal Hospital 1400 State St.	RE 6-1851
Worcester	Jacob Brem, MD Worcester City Hospital 71 Jacques St.	PL 6-1551 or SW 9-7094

Michigan

Adrian	W.H. Hewes, MD Emma L. Bixby Hospital 818 Riverside Avenue	CO 5-6161
Ann Arbor	George H. Lowrey, MD University Hospital 1313 E. Ann St.	NO 3-1531, Ext. 589
Battle Creek	Sterling L. Butterfield Community Hospital 200 Tompkins St.	WO 3-5521, Ext. 55
Coldwater	J.C. Heffelfinger, MD Community Health Center of Branch County 274 E. Chicago St.	BR 9-9501
Detroit	Paul V. Woolley, Jr., MD Children's Hospital of Michigan 5224 St. Antoine St.	TE 3-1000

Michigan, cont.

Detroit	Paul T. Salchow, MD William G. Fredrick, Sc.D. Registrar's Office Herman Keifer Hospital 1151 Taylor Ave.	TR 2-3334
Flint	Douglas Vivian Hurley Hospital 6th Ave & Begole St.	CE 2-1161
Grand Rapids	Ronald Yaw Blodgett Memorial Hosp. 1800 Wealthy S.E.	GL 6-5301
	Mark W. Dick, MD Butterworth Hosp. 300 Bostwick N.E.	GL 1-3591
	Sister Mary Maurita St. Mary's Hospital 250 Cherry St., S.E.	GL 9-3131
Lincoln Park	Alven A. Reske, MD Outer Drive Hospital 26400 W. Outer Dr.	DU 6-0606
Marquette	St. Luke's Hospital W. College Ave.	CA 6-3586
Midland	Richard H. Howell, MD Midland Hospital 4005 Orchard Dr.	TE 5-6771
Petoskey	Nobert R. Wegemer Little Traverse Hospital 416 Connable Ave.	DI 7-2551
Pontiac	Robert J. Mason, MD St. Joseph Mercy Hosp. 900 Woodward Ave.	FE 4-3511, Ext. 103
Port Huron	Robert M. Lugg, MD Mercy Hospital 940 Military	YU 5-9531
Saginaw	William G. Mason, MD Saginaw General Hospital 1447 N. Harrison Rd.	PL 5-3491

Minnesota

Duluth	William B. Martin, MD St. Luke's Hospital 915 E. 1st St.	RA 7-6636
Fergus Falls	Rolf Daehlin, MD Lake Region Hospital 108 E. Vasa Ave.	RE 6-5475 Night: RE 6-3255
Mankato	D.B. Swenson, MD Medical Record Dept. Immanuel Hospital 413 N. 4th St.	8-1605 or 8-1606
Minneapolis	Robert D. Semsch, MD Abbott Hospital 110 E. 18th St.	FE 9-8414, Ext. 226
	L.B. Folsom, MD Fairview Hospital 2312 S. 6th St.	FE 6-6691
	Warren R. Lawson Division of Special Health Services Minnesota State Dept. of Health University Campus	FE 9-7751 Night: FE 9-1411 or PA 4-7656
	Richard B. Raile, M.D. Minneapolis General Hospital 619 S. 5th St.	FE 3-1178
	Saburo Aisawa North Memorial Hospital 3220 Lowry Ave. North	JU 8-9451
	Albert J. Schroeder, MD Northwestern Hospital 810 E. 27th St.	FE 2-7266
Rochester	J.C. Ivins, MD St. Mary's Hospital 1216 2nd St. S.W.	AT 9-4581, Ext. 591
St. Cloud	Arthur E. Davis Clinical Laboratory St. Cloud Hospital 1406 6th Ave. North	BL 1-2700
St. Paul	Resident in charge of Emergency Room Ancker Hospital 495 Jefferson Ave.	CA 2-7341, Ext. 240

Minnesota, cont.

St. Paul	Elaine McKenzie, MD Bethesda Hospital 559 Capitol Blvd.	CA 4-7561
	Jacquelynne Craychee St. John's Hospital 403 Maria Ave.	PR 1-5521
	John J. Galligan, MD St. Joseph's Hospital 69 W. Exchange	CA 2-2861
	Robert C. Knutson, MD St. Luke's Hospital 287 N. Smith Ave.	CA 2-6644
	Edwin C. Burklund, MD The Children's Hospital 311 Pleasant Ave.	CA 7-6521
Worthington	M.W. Plucker, MD Worthington Municipal Hospital 1018 6th Ave.	2-5601 Night: 2-5614

Mississippi

Laurel	Shelby W. Mitchell, MD Jones County Community Hosp. Jefferson St. at 13th Ave.	8-7236

Missouri

Cape Girardeau	Sister M. Virgilia St. Francis Hospital 825 Good Hope St.	ED 5-3375
Kansas City	Braham Geha, MD Kansas City General Hospital 2400 Cherry	HA 1-8060, Ext. 257
	Herbert C. Miller, MD Mercy Hospital 1710 Independence	GR 1-5250
St. Louis	James P. King, MD Cardinal Glennon Memorial Hospital for Children 1465 S. Grand Ave.	MO 4-7222
	J.N. Middelkamp, MD St. Louis Children's Hospital 500 S. Kingshighway	FO 7-6880
Springfield	Keith L. Carender St. John's Hospital 1235 E. Cherokee	UN 4-3553

Nebraska

Omaha	Carol R. Angle, MD Children's Memorial Hosp. 44th & Dewey Sts.	GL 5400

Nevada

Las Vegas	Southern Nevada Memorial Hosp. 1800 W. Charleston Blvd.	DU 2-2700
Reno	V. A. Salvadorini, MD Washoe Medical Center Kirman & Mills Sts.	FA 2-9141

New Hampshire

Hanover	Robert E. Gosselin, MD Mary Hitchcock Memorial Hosp. 2 Maynard St.	Hanover 800

New Jersey

Atlantic City	Samuel C. Southard, MD Atlantic City Hospital 16 S. Ohio Ave.	4-4081
Belleville	William Fost, MD Clara Maass Hospital Franklin Ave.	FL 1-1000, Ext. 224
Boonton	G.D. Darrow, MD Riverside Hospital Powerville Road	DE 4-5000
Bridgeton	Carl N. Ware, MD Bridgeton Hospital Association Irving Ave.	GL 1-6600
Camden	William C. Griffey, MD West Jersey Hospital Mt. Ephraim & Atlantic Aves.	WO 3-8830
Denville	Ralph Cobrinik, MD St. Clare's Hospital St. Francis Ave.	OA 7-3000
Elizabeth	Jacques B. Wallach, MD St. Elizabeth Hospital 204 S. Broad St.	EL 5-3100

New Jersey, cont.

Englewood	William van Ost, MD Englewood Hospital 350 Engle St.	LO 8-3400
Flemington	Robert Henderson, MD Hunterdon Medical Center Rt. 69	ST 2-2121
Long Branch	Murray Kessler, MD Monmouth Memorial Hospital 255 3rd Ave.	CA 2-5200
Montclair	Harold Mancusi-Ungaro, MD Mountainside Hospital Bay & Highland Aves.	PI 6-6000, Ext. 234
Morristown	Salvatore Giordano, MD All Soul's Hospital 95 Mt. Kemble Ave.	JE 8-0900
	Bayard Coggeshall, MD Memorial Hospital 100 Madison Ave.	JE 8-4500, Ext. 214
Neptune	Anthony P. DeSpirito, MD Fitken Memorial Hospital Corlies Ave.	PR 5-5500
Newark	William H. Fost, MD Babies Hospital 15 Roseville Ave.	HU 2-6200
	Arthur Heyman, MD Newark Beth Israel Hosp. 201 Lyons Ave.	WA 3-6000
	Nathan Zukerberg, MD St. Barnabas Medical Center 685 High St.	MA 2-6300
New Brunswick	Louis L. Krafchick, MD Middlesex General Hospital 180 Somerset St.	KI 5-8200
	William Jarrett, MD St. Peter's Hospital Easton Ave.	KI 5-8000, Ext. 329
Newton	Robert A. Weinstein, MD Newton Memorial Hospital 175 High Street, Box 24	DU 3-2121
Nutley	William J. Farley, MD Public Safety Building	NO 7-3300
Orange	Robert E. Jennings, MD Orange Memorial Hospital 188 S. Essex Ave.	OR 5-1100
Paterson	Alfred Siss, MD Paterson General Hospital 528 Market St.	MU 4-6950
Perth Amboy	W. Greenberg, MD Perth Amboy General Hospital New Brunswick Ave.	HI 2-3700, Ext. 304
Phillipsburg	Robert B. Jeffrey, MD Warren Hospital	GL 4-8551
Point Pleasant	Richard R. McCarthy, MD Point Pleasant Hospital Osborne Ave.	TW 2-1100
Princeton	J. Leonard Moore, MD Princeton Hospital 253 Witherspoon St.	WA 1-7700
Summit	W. Arthur Staub, MD Overlook Hospital 193 Morris Ave.	CR 3-8100
Teaneck	R. Bryan Hillsman, MD Holy Name Hospital 718 Teaneck Rd.	TE 7-3070
Trenton	Irving W. Robinson, MD Helen Fuld Hospital Brunswick & Ferrier Aves.	OW 5-5491

New Mexico

Alamogordo	I.J. Shyne 1210 10th St.	HE 7-3770, Ext. 10
Albuquerque	John M. Casebolt, MD Bernalillo County-Indian Hospital 2211 Lomas Blvd., N.E.	AL 5-8703, Ext. 89
Carlsbad	Earl Flanagan, MD St. Francis Hospital 109 N. Guadalupe St.	TU 5-3121
Clovis	Martin Goodwin, MD Clovis Memorial Hospital 1210 Thornton St., Box 231	PO 3-4495

Before little Johnny breathes too much, tell him DDT means Don't Dare Touch.

New Mexico, cont.

Las Cruces	Rudolf G. Wanner, MD Memorial General Hospital Alameda at Lohman	JA 6-2411
Raton	Milton Floersheim, MD Miner's Hospital of N.M. S. 6th St.	1097
Roswell	Quentin Florence, MD Eastern N.M. Medical Center 405 W. Country Club Road	MA 2-8070
Silver City	Edmund J. Manogue, MD Watts Clinic and Hospital 500 18th St.	1550

New York

Albany	Paul Patterson, MD Albany Hospital New Scotland Ave.	HE 8-4541
Buffalo	Donal Dunphy, MD Buffalo Children's Hospital 219 Bryant St.	SU 5-100, Ext. 242
Elmira	Lawrence Holber, MD Arnot Ogden Memorial Hospital Roe Ave. & Grove St.	RE 4-5221
	John J. Reed St. Joseph's Hospital 555 E. Market St.	RE 3-6541, Ext. Emergency Room
Hempstead, L.I.	A.W. Freireich, MD Meadowbrook Hospital Bethpage Tpke. & Carman Ave.	IV 9-4000
Jamestown	W.C.A. Hospital 207 Foote Ave.	7-141
Kingston	Kingston Hospital 396 Broadway	FE 1-3131
New York	Harold Jacobziner, MD Medical Director Harry W. Raybin Technical Director New York City Dept. of Health 125 Worth St.	WO 4-3800
Niagara Falls	E.A. Shoemaker, MD Niagara Falls Memorial Hospital 516 6th St.	BU 5-2571
Rochester	Ruth A. Lawrence, MD Strong Memorial Hospital 260 Crittenden Blvd.	GR 3-4400
Syracuse	Paul L. Wehrle, MD City Hospital 345 Renwick Ave.	GR 6-3166

North Carolina

Charlotte	Mercy Hospital 2000 E. 5th St.	ED 4-6831
Durham	Jay M. Arena, MD Duke University Hospital Box 3024	Durham 9011, Ext. 2413
Jacksonville	S.C. Cox Onslow Memorial Hospital College St.	7242

North Carolina, cont.		
Wilmington	J.C. Knox, MD James Walker Memorial Hospital 10th and Rankin Sts.	RO 3-9611, Ext. 240 Night: Ext. 247 or 248
North Dakota		
Bismarck	Robert B. Tudor, MD Quain & Ramstad Clinic 221 N. 5th	CA 3-5000 or CA 3-4700
Dickinson	K.G. Foster, MD St. Joseph's Hospital 7th Street W.	4191
Fargo	B.A. Mazur, MD The Dakota Clinic 1702 S. 13th	
Grand Forks	J.D. Cardy, MD Department of Pathology University of North Dakota	4-6211 Night: 4-7110
Jamestown	J.V. Miles, MD Children's Clinic 119 2nd Ave. S.E.	CL 2-3441 Night: CL 2-3117
Minot	Gale R. Richardson, MD St. Joseph's Hospital 304 4th St.	51-141
Williston	Gordon Ellis, MD Mercy Hospital	
Ohio		
Akron	Paul A. Hayden Children's Hospital 182 Bowery St.	BL 3-5531, Ext. 246
Cincinnati	Cincinnati Academy of Medicine 152 East 4th St.	PA 1-2345
Cleveland	Irving Sunshine, PhD Cleveland Academy of Medicine 2009 Adelbert Rd.	CE 1-3500 & CE 1-4455
Columbus	William O. Robertson, MD The Children's Hospital 17th St. at Livingston Park	CL 8-9783
Dayton	Col. J.W. Humphreys, Jr. USAF Hospital Wright-Patterson Wright-Patterson Air Force Base	TR 8-4628, Ext. 335
Mansfield	George W. Loesch, MD Mansfield General Hospital 335 Glessner Ave.	LA 2-3411, Ext. 248
Springfield	A.A. Gavey, MD Springfield City Hospital E. High St. & Burnett Rd.	FA 3-5531, Ext. 226
Toledo	Marian Rejent, MD 635 E. Erie St.	CH 4-1961, Ext. 410 Night: GR 9-2244
Oklahoma		
Oklahoma City	H.A. Shoemaker, PhD University of Oklahoma Medical Center 800 N.E. 13th St.	CE 6-1511, Ext. 358
Oregon		
Portland	Carl G. Ashley, MD P.O. Box 231	CA 8-9181 Night: CA 8-5546

Don't let your child eat a heap of poison left for bugs that creep.

Pennsylvania		
Allentown	Forrest G. Moyer, MD Allentown Hospital Assn. 17th & Chew Sts.	HE 4-7161 Ext. 225
Danville	Samuel Morrison, MD George F. Geisinger Memorial Hospital	BR 5-1000
Easton	Merton E. Cohen, MD Easton Hospital 21st & Lehigh Sts.	BL 8-6221
Erie	John M. Willis, MD Hamot Hospital Assn. 2nd & State Sts.	GL 2-6991
Harrisburg	Rosemarie J. Tursky, MD Harrisburg Hospital	CE 6-7011
	Mary Ames, MD Polyclinic Hospital 3rd & Radnor Sts.	CE 6-3031
Lancaster	David B. Coursin, MD St. Joseph Hospital College Ave. & Walnut St.	EX 7-2821
Philadelphia	Emil A. Tiboni Phila. Dept. of Public Health Room 632, City Hall Annex	WA 2-5524
Pittsburgh	W.H. Borges, MD Children's Hospital 125 DeSoto	MU 1-7700
Sharon	B.J. Wood, MD Sharon General Hospital 740 E. State St.	7-7701
Wilkes-Barre	Joseph Robinson, MD Mercy Hospital 196 Hanover St.	VA 2-8101
Rhode Island		
Providence	Joseph S. Karas, MD Rhode Island Hospital 593 Eddy St.	DE 1-4174
South Carolina		
Charleston	Margaret Jenkins, MD Medical College of S.C. 55 Doughty St.	RA 3-9411
Columbia	Henry Moore, MD Columbia Hospital 2020 Hampton St.	AL 4-7387
South Dakota		
Vermillion	F.E. Kelsey, PhD Department of Pharmacology University of South Dakota	MA 4-4411 Night: MA 4-3348
Tennessee		
Chattanooga	Homer D. Venters, Jr., MD T.C. Thompson Children's Hosp. 1001 Glenwood Dr.	MA 4-5020
Jackson	Chester K. Jones, MD Madison General Hospital 708 W. Forest	7-9651
Johnson City	J.R. Bowman, MD Memorial Hospital Boone & Fairview Ave.	WA 6-1131, Ext. 36
Knoxville	Robert F. Lash, MD University of Tennessee Memorial Research Center & Hospital Alcoa Highway	4-2961, Ext. 205
Memphis	Harris Lake Smith, MD Le Bonheur Children's Hosp. Adams Ave. at Dunlap	JA 5-6541 Night: JA 7-1411
Nashville	Richard O. Cannon, MD Vanderbilt Hospital 1161 21st Ave. S.	AL 4-5411
Texas		
Abilene	J.P. Gibson, MD Hendrick Hospital 19th & Hickory Sts.	OR 4-3551
Austin	A.L. Exline, Jr., MD Emergency Room Brackenridge Hospital 14th & Sabine Sts.	GR 8-8571 Ext. 220 & 240

Texas, cont.

Corpus Christi	Meyer Kurzner, MD Memorial Hospital, Medical Library 2606 Hospital Bldg., Box 5008	TU 4-4511
Dallas	Morton F. Mason, PhD Parkland Memorial Hospital Harry Hines Blvd.	LA 6-7611 Ext. 402 & 450
Fort Worth	Edward M. Wier, MD W.I. Cook Memorial Hospital 1212 W. Lancaster	ED 6-5521 Night: ED 6-5522
Galveston	Armond Goldman, MD Medical Branch Hospital University of Texas 8th & Mechanic Sts.	SO 5-5541, Ext. 596
Grand Prairie	W. Herbert Locke, DO Mid-Cities Memorial Hospital 2733 Sherman Road	AN 4-1651
Harlingen	George L. Gallaher, MD Valley Baptist Hospital 2101 Commerce St.	GA 3-1224, Ext. 23
Houston	Robert Allen Wise, MD Suite 17, Hermann Professional Bldg. Texas Medical Center	JA 6-3731 or JA 6-3732
Tyler	J. Ernest Alexander, Jr., MD Smith County Medical Society 2817 Fry	LY 3-0531

Utah

Salt Lake City	M.E. Lahey, MD Salt Lake County Hospital 1940 South 2nd East	HU 4-8612

Virginia

Charlottesville	McLemore Birdsong, MD University of Virginia Hospital Director's Office	CH 2-2121
Christiansburg	A.M. Showalter, MD New Altamont Hospital 100 Radford Rd.	EV 2-2941 or EV 2-2942
Danville	James F. Burch Danville Memorial Hospital 142 S. Main St.	SW 3-6311
Hampton	Thomas W. Sale, MD Dixie Hospital Victoria Blvd.	PA 2-1971
Lynchburg	Raymond E. Hogan Lynchburg General Hospital Tate Springs Rd.	VI 6-6511
Norfolk	Ramon A. Morano Office of Chief Medical Examiner 427 E. Charlotte St.	MA 5-1306
Portsmouth	Frederick B. Becker, MD U.S. Naval Hospital	EX 9-2441, Ext. 200 & 613
Richmond	Sidney Kaye, PhD Medical College of Va. 1200 E. Broad Street	MI 4-9851
Roanoke	Andrew D. Shapero, MD Roanoke Memorial Hosp. Belleview & Lake Aves.	DI 2-4541
Staunton	R. David Anderson Kings Daughters Hospital 1410 N. Augusta St.	TU 5-0361

Virgin Islands

St. Thomas	C. Warren Smith, MD Division of Public Health Service Virgin Islands Dept. of Health Charlotte Amalie	

Washington

Aberdeen	Robert Fulton, MD St. Joseph's Hospital 1006 North "H" St.	LE 3-0450
Olympia	C.D. Kitterman St. Peter Hospital 420 S. Sherman St.	FL 2-0301
Seattle	Donald H. Sutherland, MD Children's Orthopedic Hosp. 4800 Sandpoint Way	LA 4-4300

Washington, cont.

Spokane	James M. Patton, MD Deaconess Hospital West 733 Fourth Ave.	RI 7-4811
Tacoma	Bernard A. Bader, MD Tacoma General Hospital 3581 Pacific Ave.	GR 4-0561
Vancouver	Sister Theodula St. Joseph's Hospital 500 E. 12th St.	OX 3-4791

This "candy" can make headaches begin; only mother knows it's aspirin.

West Virginia

Beckley	John Haddad, MD Beckley Hospital 1007 S. Oakwood Ave.	CL 2-6431
Charleston	J. Darrel Richmond Charleston Memorial Hospital 3200 Noyes Ave., S.E.	DI 4-1741
Clarksburg	L.B. Thrush, MD St. Mary's Hospital Washington & Chesnut Sts.	MA 4-7611, Ext. 79
Huntington	William Kopp, MD Cabell-Huntington Hospital 1340 16th St.	JA 5-0301
	Samuel Biern, Jr., MD St. Mary's Hospital 2900 1st Ave.	JA 3-7466
Parkersburg	Eleanora Cain Camden-Clark Hospital 717 Ann St.	HU 5-5531
	Dorothy Anderson St. Joseph's Hospital 19th St. & Murdoch Ave.	HU 5-5421
Pine Grove	Justin K. Edgar Pine Drug Store	TU 9-8500 Night: TU 9-5310
Ronceverte	Ernest T. Cobb, MD Greenbrier Valley Hospital Greenbrier Ave.	MI 7-4411 or MI 7-4412
Weston	M.B. Ralston, III Stonewall Jackson Hospital	1775

Wisconsin

Green Bay	S.L. Griggs, MD Bellin Memorial Hospital 744 S. Webster Ave.	HE 5-5311
Kenosha	D.W. Davis, MD Kenosha Hospital 6308 8th Ave.	OL 4-5311
Madison	W. Theodore Bruns, MD University Hospital 1300 University Ave.	AL 6-6811
Milwaukee	J.C. Peterson, MD Milwaukee Children's Hospital 721 N. 17th St.	DI 4-7100

Wyoming

Cheyenne	Lawrence Cohen, MD Laramie Co. Memorial Hospital 23rd & House Sts.	4-4431

prescriptions for sodium fluoride

The council on dental therapeutics of the American Dental Association has endorsed[1] the use of dietary fluorides on a prescription basis under certain limited conditions to benefit children in geographic areas which do not as yet have municipal water fluoridation. This well-established public health procedure has been demonstrated to be effective for the development of caries-resistant teeth and from presently available evidence the council on dental therapeutics concludes that children will receive a measure of this benefit through the prescription use of fluoride supplements.

The dosage of fluoride supplement is based in part upon the concentration of fluoride in the drinking water—the amount prescribed must be adjusted to take into account any known concentration which may be less than the ideal amount but is substantially large enough to be significant in the total intake. Some adjustment, furthermore, may have to be made on the basis of the age of young children. As a result, the amount of fluoride prescribed by the dentist may vary somewhat depending upon the geographic residence and age of the patient.

Because of its ready availability and its rapid and complete solubility in water, sodium fluoride is generally employed as the chemical source of fluoride ion in the preparation of dietary-supplement fluoride solutions. This use has been recognized in the *United States Pharmacopeia* and the currently official 15th revision carries the following information[2] in the monograph for *Sodium Fluoride:*

Category—Dental prophylactic.
Dose—Usual—0.7 to 1 part per million to drinking water.

This information, however, is partly in error in that the usual dose indicated is that recommended for the fluoride ion; consequently, the dose of sodium fluoride would need to be revised upward to take into consideration the dilution caused by the sodium ion content also present. The *USP* committee has recognized this error and also noted that no mention was made of the concentration generally employed for topical application. As a result, the information currently planned to be carried in the forthcoming revision of the *USP*[3] reads:

Category—Dental prophylactic.
Application—1.5 to 3 parts per million (equivalent to 0.7 to 1.3 parts per million of fluoride ion) in drinking water; topically as 1 to 2 percent solution to the teeth of children.

Recently it has come to our attention that a few pharmacists have refused to fill prescriptions from dentists, which specify a dosage of 1.5 to 3 ppm sodium fluoride. The basis for the refusal is that the prescribed amount is in excess of the range presently carried in the *USP*. But the dentists were prescribing a reasonable amount and the error was with the *USP* dose statement.

Aside from the consideration of the circumstances pertaining to this one specific drug, there appears to be an underlying misunderstanding involved as to the significance or purpose of the official compendia. It is hoped here to clarify this misinterpretation which has arisen.

The *USP* and the *National Formulary* provide official sets of standards for the **composition** and **purity** of drugs. Determination of the dose and particular prescription indicated for a specific patient is the responsibility and prerogative of a duly authorized prescriber. The inclusion of "usual dose" information in the compendia is intended merely to serve as guide to the pharmacist since it is his responsibility to check with the prescriber to confirm the accuracy of prescriptions which call for unusually large or small doses. This is emphasized in the "General Notices" section which appears in the present *USP*[4].

Dose Range—The Dose Range is intended primarily to guide the pharmacist with respect to seeking confirmation of prescriptions calling for unusually small or large doses . . .

Once the pharmacist has established that the dosage level of the drug prescribed is intended and reasonable, it is then his responsibility to proceed to compound and dispense the prescription according to the directions of the prescriber.

References

1. Council on Dental Therapeutics, *J. Am. Dent. Assn.*, **56**, 589 (1958).
2. "Pharmacopeia of the United States," 15th rev., Mack Publishing Co., Easton, Pa., 1955, p. 652.
3. Page proof, "Pharmacopeia of the United States," 16th rev., p. 665.
4. "Pharmacopeia of the United States," 15th rev., Mack Publishing Co., Easton, Pa., 1955, p. 8.

Personal Experiences

(*Continued from page 141*)

blooms, bird of paradise seeds, mimosa seeds, violets, stink horns, poke berries, poke root, castor beans, buckeye, diffenbachia, black nightshade, silver leaved nightshade, poison ivy berries, mistletoe, etc.

The Center is also quite frequently consulted in helping to make a diagnosis. These are the calls listed as unknown. This occurs most frequently when the symptomatology does not fit a specific disease condition. In a few instances, the personnel of the Center were able to be of help.

information for suicidal purpose

In only one instance has the Center been consulted about the toxicity of a drug intended to be used for suicidal purposes. In this instance, the call came to the Center wanting to know if *d*-amphetamine was a poison. The person answering the telphone was not familiar with the toxicity of the drug and said that she would contact the director of the Center and call back. The party calling refused to give the telephone number but said he would call back to obtain the information. Approximately 45 minutes later, a young man was brought to the emergency room of one of the hospitals in Oklahoma City with marked symptoms of *d*-amphetamine poisoning and a story of having taken 75 mg. of *d*-amphetamine. Subsequently, it was determined that he was the individual who had placed the call asking about its toxicity.

The problems are seldom the same. We can sometimes anticipate some calls. For example, whenever a new household product, such as furniture polish, is placed on the market and samples are distributed widely, we can always expect several calls because children have ingested the product. ●

Selected References

Rodman, Morton J., "A Survey of Potentially Harmful Household Products," *J. Pediatrics*, **46**, 171 (1955).
"Common Household Poisons and Their Antidotes," *Connecticut Health Bulletin*, **69**, 7 (1955).
Arena, Jay M., "Active Ingredients in Commonly Used Products," Conn., H.F., *Current Therapy*, W.B. Saunders, Philadelphia (1955).
Gleason, M.N., Gosselyn, R.E., and Hodge, H.C., *Clinical Toxicology of Commercial Products*, Williams & Wilkins Co., Baltimore (1957).
Press, Edward, and Mellins, Robert B., "A Poisoning Control Program," *Am. J. Public Health*, **44**, 1515 (1954).

Federal and State Actions

illegal sales of prescription drugs

California—Bordan's Victory Pharmacy, Inc., a corporation; Harry I. Resnik, president; Edward I. Fisher, secretary-treasurer, and Paul Dennis, clerk, Los Angeles—Conspiracy with respect to illegal dispensing of drugs; selling amphetamine without doctor's authorization, holding amphetamine without prescription legend. Corporation fined $2,500; Resnik, $2,500; Fisher, $350. Imposition of sentence for both individuals on one count suspended for two years; both placed on two-year probation. Dennis died prior to date of trial.

Florida—Solomon George Saig, dba St. Clair Grocery, Jacksonville—Illegal sale of amphetamine and barbiturates. Sentenced to six months in prison.

Georgia—Edward C. Shumate, College Park—Illegal sales of amphetamine. Placed on two-year probation.

Clayton (NMI) Jones, Helena—Illegal sale of amphetamine. Fined $1,000 and placed on two-year probation.

John Lee Wells (employed at Senco Truck Stop, U.S. Highway No. 41, Clayton County), Mountain View—Illegal sales of amphetamine. Placed on two-year probation.

Indiana—Lyle V. Prendergast, dba Lyle's Pharmacy, Cedar Lake—Selling amphetamine and tranquilizers without doctor's authorization. Fined $250 plus $26.80 costs.

Maryland—Duvall Pharmacy, Inc., and Leon L. Tatter, president, Baltimore—Refilling prescriptions for antibiotics and barbiturates without doctor's authorization. Firm fined $900; Tatter, $300, plus $40 costs prorated between defendants.

Missouri—Isador Kammer, dba Belt Avenue Pharmacy, St. Louis—Selling and refilling prescriptions for amphetamine and barbiturates without doctor's authorization. Fined $600.

Wisconsin—Hiram L. Brooks, dba Brooks Drug Store and Carlton Bohman, clerk, Marinette—Selling amphetamine, barbiturates, and Ergoapiol with Savin without doctor's authorization. Brooks fined $1,000, Bohman, $250.

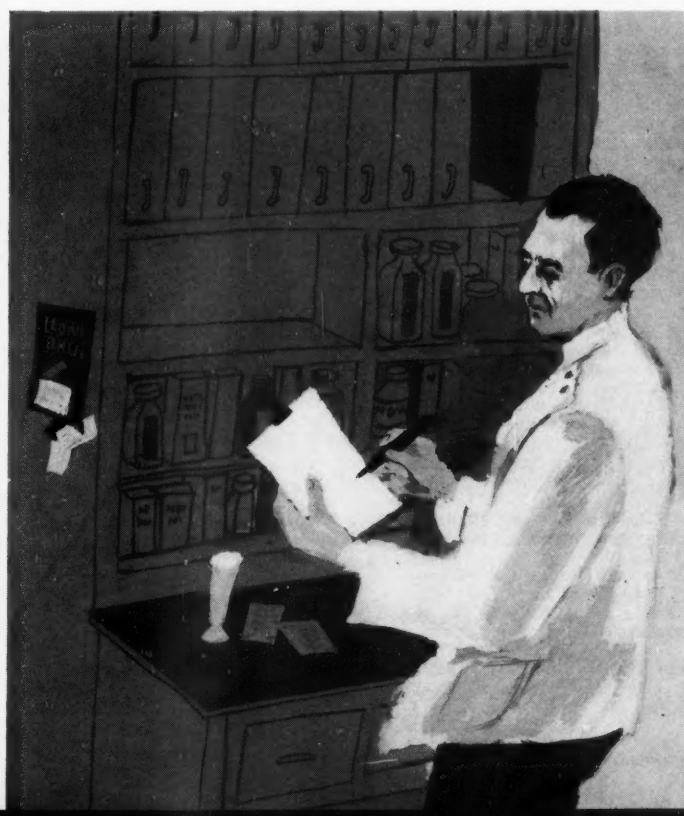
misbranded and substandard drugs

New York—Dean and Lee, a partnership, and Harry L. Kahler, partner, Horseheads—Medicated feed was adulterated by substitution of Unistat for Nicarbazin and the product was shipped without the labeling required by law. Firm fined $100; Kahler fined $100 with fine remitted.

Doris Savitch, dba Personal Drug Company and Rem-Al Company, and Leo Savitch, manager of both firms, New York—Quik Caps were misbranded with false and misleading claims for treatment of delayed menstruation; Rem-Al emetic contained false and misleading claims for treatment of drunkeness and is dangerous to health when used in the dosage recommended in the labeling. Case against Doris Savitch was dropped. Leo Savitch fined $1,000 and placed on one-year probation, sentenced to 90 days in jail with sentence suspended.

violation of probation

Nebraska—Harry G. Williams, MD, Omaha—Violated probation imposed October 29, 1959, by selling amphetamine not in the course of professional practice. Williams required to serve one-year jail sentence previously suspended, confinement to be in an institution where the prisoner can secure necessary medical or other treatment.



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Calendar of Events

MARCH

1–31 American Red Cross Month
6–8 Iowa Pharmaceutical Assn. annual convention, Roosevelt Hotel, Cedar Rapids, Iowa.
6–12 National Save Your Vision Week
13–15 Missouri Pharmaceutical Assn. annual convention, Hotel Governor, Jefferson City, Mo.
13–18 National Health Forum (National Health Council), Carillon Hotel, Miami, Fla.
15 Philadelphia Pharmacy Forum (Temple University School of Pharmacy), Warwick Hotel, Philadelphia, Pa.
20–22 Kansas Pharmaceutical Assn. annual convention, Jayhawk and Kansas Hotels, Topeka, Kan.
22–23 Pharmaceutical Manufacturers' Assn., pharmaceutical contact section, Shoreham Hotel, Washington, D.C.
24 District of Columbia Pharmaceutical Assn. general membership meeting, The Broadmoor, Washington, D.C.
26 Metropolitan Druggists' Assn. Secretaries, Statler-Hilton Hotel, Washington, D.C.
26 National Conference of State Pharmaceutical Assn. Secretaries, Statler-Hilton Hotel, Washington, D.C.
27–28 APhA House of Delegates, Statler-Hilton Hotel, Washington, D.C.
29–30 USP decennial meeting, Statler-Hilton Hotel, Washington, D.C.

APRIL

1–30 Cancer Control Month
4–7 Pharmaceutical Manufacturers' Assn. annual meeting, Boca Raton Hotel and Club, Boca Raton, Fla.
5–14 American Chemical Soc. annual meeting, Cleveland, Ohio
8–10 Annual Texas Hospital Pharmacy Seminar, Stephen F. Austin Hotel and Texas College of Pharmacy, Austin, Tex.
11–16 American Soc. of Biological Chemists meeting, Chicago, Ill.
13–15 American Public Health Assn., southern branch, Memphis, Tenn.
17–19 Animal Health Institute annual meeting, Shoreham Hotel, Washington, D.C.
17–20 Georgia Pharmaceutical Assn. convention, Hotel DeSoto, Savannah, Ga.
18–20 National Assn. of Chain Drug Stores biennial convention, Hollywood Beach-Diplomat-Seacrest Hotels, Hollywood, Fla.
23–25 Arizona Pharmaceutical Assn. annual convention, Stardust Hotel, Yuma, Ariz.
24–26 Nebraska Pharmaceutical Assn. annual convention, Hotel Yancey, Grand Island, Nebr.
29 Parenteral Drug Assn., Inc., scientific meetings, Warwick Hotel, Philadelphia, Pa.

MAY

1–3 Minnesota Pharmaceutical Assn. annual convention, Hotel Pick-Nicollet, Minneapolis, Minn.
1–31 Better Hearing Month
1–7 Mental Health Week
2–4 New Mexico Pharmaceutical Assn. annual convention, Western Skies Hotel, Albuquerque, N.M.
8–10 North Carolina Pharmaceutical Assn. annual convention, Robert E. Lee Hotel, Winston-Salem, N.C.
8–14 National Hospital Week
9 American Social Hygiene Assn. annual meeting, New York, N.Y.
11 Toilet Goods Assn., scientific sections meeting, Waldorf-Astoria Hotel, New York, N.Y.
11–14 National Science Fair, Indianapolis, Ind.
15–17 Illinois Pharmaceutical Assn. annual convention, Browns Lake Resort, Burlington, Wis.
15–18 Florida State Pharmaceutical Assn. annual convention, Hillsboro Hotel, Tampa, Fla.
15–18 Ohio Pharmaceutical Assn. annual convention, Biltmore Hotel, Dayton, Ohio
15–18 Proprietary Assn. annual meeting, The Greenbrier, White Sulphur Springs, W.Va.
15–20 National Tuberculosis Assn., Statler and Biltmore Hotels, Los Angeles, Calif.
16–18 American National Red Cross annual convention, Kansas City, Mo.
17–18 Arkansas Pharmaceutical Assn. annual convention, Marion Hotel, Little Rock, Ark.
19–20 Pharmaceutical Manufacturers' Assn., production and engineering section, The Broadmoor, Colorado Springs, Colo.
20–27 Foot Health Week
22–25 California Pharmaceutical Assn. annual convention, Hacienda Motel and Town & Country Club, Fresno, Calif.
24–26 Oklahoma Pharmaceutical Assn. annual convention, Hotel Tulsa, Tulsa, Okla.
30–Jun. 2 Hawaii Pharmaceutical Assn. annual convention, Princess Kaiulani Hotel, Honolulu, Hawaii

JUNE

5–7 North Dakota Pharmaceutical Assn. annual convention, Bismarck, N.D.
5–7 Wyoming Pharmaceutical Assn. annual convention, Casper, Wyo.
6–8 Colorado Pharmacal Assn. annual convention, Antlers Hotel, Colorado Springs, Colo.
6–8 Michigan State Pharmaceutical Assn. annual convention, Statler-Hilton Hotel, Detroit, Mich.
9–12 American Therapeutic Soc., Barcelona Hotel, Miami Beach, Fla.
11–12 American Diabetes Assn., Hotel Deauville, Miami Beach, Fla.
12–14 Washington State Pharmaceutical Assn. annual convention, Davenport Hotel, Spokane, Wash.
12–15 National Industrial Pharmaceutical Research Conference (University of Wisconsin Extension Services in Pharmacy), Land O'Lakes, Wis.
12–17 Pharmaceutical Soc. of the State of New York annual convention, Saranac Inn, Upper Saranac Lake, N.Y.
13–15 Mississippi State Pharmaceutical Assn. annual convention, Edgewater Park, Miss.
13–16 Tennessee Pharmaceutical Assn. convention, Gatlinburg, Tenn.
13–17 American Medical Assn. annual meeting, Miami Beach, Fla.
19–21 Connecticut Pharmaceutical Assn. summer convention, Banner Lodge, Moodus, Conn.
19–21 Delaware Pharmaceutical Soc. annual convention, Shelburne Hotel, Atlantic City, N.J.
19–21 Massachusetts Pharmaceutical Assn. annual convention, New Ocean House, Swampscott, Mass.
19–21 Oregon State Pharmaceutical Assn. annual convention, Hotel Umpqua, Roseburg, Ore.
19–21 South Dakota Pharmaceutical Assn. annual convention, Alonzo-Ward Hotel, Aberdeen, S.D.
19–22 South Carolina Pharmaceutical Assn. annual convention, Hotel Wade Hampton, Columbia, S.C.
19–22 Virginia Pharmaceutical Assn. annual convention, Virginia Beach, Va.
19–23 New Jersey Pharmaceutical Assn. annual convention, Hotel Traymore, Atlantic City, N.J.
20–22 Louisiana State Pharmaceutical Assn. annual convention, Fontainbleau Motel, New Orleans, La.
21–23 Alabama Pharmaceutical Assn. annual convention, Thomas Jefferson Hotel, Birmingham, Ala.
21–23 Indiana Pharmaceutical Assn. annual convention, French Lick-Sheraton Hotel, French Lick, Ind.
22–24 District of Columbia Pharmaceutical Assn. annual convention, Commander Hotel, Ocean City, Md.
25–27 Montana State Pharmaceutical Assn. annual convention, Northern Hotel, Billings, Mont.
27–30 Idaho Pharmaceutical Assn. annual convention, Shore Lodge, McCall, Idaho
27–30 Maryland Pharmaceutical Assn. annual convention, Shelburne Hotel, Atlantic City, N.J.
27–30 Toilet Goods Assn. annual meeting, Poland Spring House, Poland Spring, Me.

JULY

3–9 American Assn. of Colleges of Pharmacy annual convention, College of Pharmacy, Univ. of Colorado, Boulder, Colo.
24–27 Pennsylvania Pharmaceutical Assn. annual convention, Pittsburgh Hilton Hotel, Pittsburgh, Pa.
25–27 Kentucky Pharmaceutical Assn. annual convention, French Lick-Sheraton Hotel, French Lick, Ind.
25–27 Texas Pharmaceutical Assn. annual convention and exhibit, Municipal Auditorium, Austin, Tex.
26–28 Rhode Island Pharmaceutical Assn. annual convention, Mayflower Hotel, Plymouth, R.I.

AUGUST

14–19 American Pharmaceutical Assn. annual convention, Shoreham and Sheraton-Park Hotels, Washington, D.C.
21–24 West Virginia State Pharmaceutical Assn. annual convention, The Greenbrier, White Sulphur Springs, W.Va.
27–Sept. 1 American Hospital Assn., Civic Auditorium, San Francisco, Calif.

SEPTEMBER

15–18 Drug, Chemical and Allied Trades Assn. annual meeting, Sagamore Hotel, Bolton Landing, N.Y.
18–20 New Hampshire Pharmaceutical Assn. annual meeting, Lake Tarleton Club, Pike, N.H.
18–21 Maine Pharmaceutical Assn. annual meeting, Poland Springs House, Poland Springs, Me.
18–21 Federal Wholesale Druggists' Assn. annual convention, The Greenbrier, White Sulphur Springs, W.Va.
25–27 Pharmaceutical Council of Greater New York, drug and cosmetic show, New York Trade Show Building, New York, N.Y.

INTERNATIONAL

MAY

2–11 Pan American Medical Assn. Congress, Mexico, D.F., Mexico (Section on Pharmacology and New Drugs, J.C. Munch, Secretary)

AUGUST

28–Sept. 2 18th General Assembly of International Pharmaceutical Federation, Copenhagen, Denmark

NOVEMBER

12–19 5th Pan-American Congress of Pharmacy and Biochemistry, Santiago, Chile

careers in pharmacy

careers commission meets

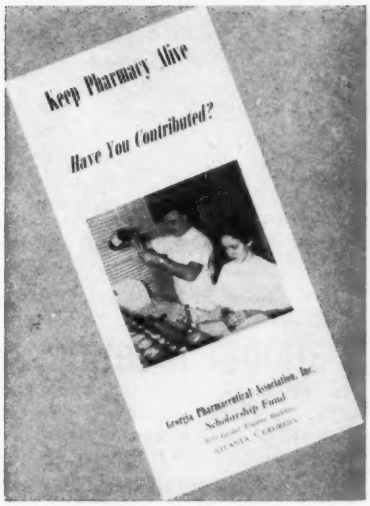
The National Advisory Commission on Careers in Pharmacy is planning its first meeting in March in Washington, D.C. to review the recruiting activities presently conducted in the profession and to discuss and recommend a co-ordinated plan of career guidance for pharmacy. The following organizations have announced their representatives who will serve on the Commission. These include Dr. Lloyd Parks, American Association of Colleges of Pharmacy; L.E.F. Minnich, American College of Apothecaries; Dr. Melvin W. Green, American Council on Pharmaceutical Education; Dr. W. Paul Briggs, American Foundation for Pharmaceutical Education; Vernon Trygstad, American Society of Hospital Pharmacists; R.C. Schlotterer, Federal Wholesale Druggists Association; George Q. Baird, Metropolitan Drug Association Secretaries; Fred Mahaffey, National Association of Boards of Pharmacy; Thomas J. Golden, National Association of Chain Drug Stores; Joseph Cohen, National Conference of State Association Secretaries; Dr. Chauncey I. Cooper, National Pharmaceutical Association; Harry Kimbriel, National Wholesale Druggists' Association; Dr. Robert A. Hardt, Pharmaceutical Manufacturers' Association; Dr. Maurice L. Moore, Proprietary Association.

career guide service

A vocational guidance information service is being instituted as a part of the Northern Indiana Regional Science Fair this year. Literature for each career in science is being assembled for distribution to school counselors from the 100 schools represented at the Fair and to the parents and students who visit the exhibits. Here is an opportunity for pharmacists to tell their story and provide young Hoosiers with a chance to see their future in pharmacy.

pharmacy career package

The extension services in pharmacy at the University of Wisconsin have prepared a pharmacy career package which is sent to pharmacists who request recruitment material. It contains a copy of 11 brochures each of which has a card addressed to the school of pharmacy stapled to it. The interested student may easily secure additional information and be placed on the mailing list of the school by using this card. A ten-minute address for presentation to high school audiences and information about available films accompany the package.



scholarship plan in Georgia

The pharmacists in Georgia are doing something about the shortage of manpower in their profession through the scholarship plan of the Georgia Pharmaceutical Association. Through a scholarship fund, maintained by their contributions, Georgia pharmacies assist in the growth and development of the profession and in the improvement of pharmaceutical services to the residents of the peach state.

The fund provides $200 scholarships to high school seniors and graduates of accredited high schools in Georgia to be used for first year pre-professional study in any accredited college and university in the state. To obtain a scholarship, the student must be in the upper third of his class, be eligible for registration in a Georgia college and submit a copy of his high school transcript and college entrance examinations (SAT) scores.

Also available are $350 scholarships for first-year professional pharmacy in either of the two Georgia schools of pharmacy, provided the student has completed sufficient college work to be eligible for admission.

scholarships for Nebraska's future pharmacists

Recruiting of pharmacy students in the state of Nebraska has gained noteworthy assistance through a scholarship which gives a beginning student $100 for each year of study, or a total of $500.

The Pepsodent Presidential Scholarship, sponsored by the Nebraska Pharmaceutical Association, is being offered for the second time this year. Information about the award reaches the high school students of the state from their local guidance teachers and directs them to their pharmacist for the application. *The Nebraska Mortar and Pestle* publication of NPA, carries the application form to the community pharmacist. By having the student pick up his application at the pharmacy the practitioner is given an opportunity to answer questions and actually to demonstrate one career in the profession. The visit also emphasizes to the student that his local pharmacist as well as others over the entire state are providing financial help for pharmaceutical education.

The scholarship winner is selected from the applications by the president of the Nebraska Pharmaceutical Association.

new media for recruitment

Advertising in high school annuals is the method used by the Wabash Valley Pharmaceutical Association in Terre Haute, Indiana to tell young people about opportunities for future pharmacists. The association has a co-operative advertising plan under which the recruitment ad appears in all Vigo County high school annuals.

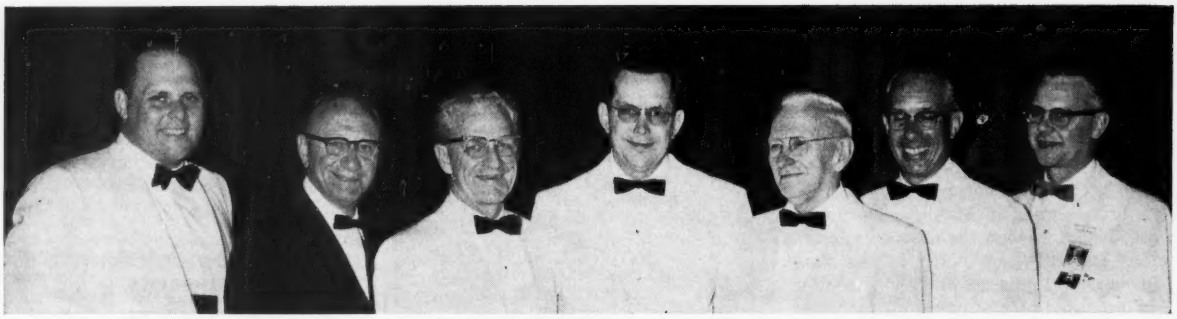
correction

In William C. Fiedler's article, "De-Ionization Units Can Be Sources of Bacterial Contamination," in the February issue of THIS JOURNAL, the table on bacterial counts of daily water samples carried incorrect figures. We are repeating the chart here with the correct figures. A typographical error in the introduction caused the concluding sentence to read, "To avoid decontamination the demineralized water should be boiled and dispensed from containers with closed delivery systems." It should have read, "To avoid *contamination* the demineralized water should be boiled and dispensed from containers with closed delivery systems."

	Bacterial counts of daily water samples					
Day	1	2	3	4	5	6 through 29
Counts per ml.	0	1130	5380	7780	9770	TNTC

Note: The tap water was negative each day.

Table 1—Summary of results of daily bacterial count of tap water.



Newly elected officers of the American College of Apothecaries are *(left to right)* Robert E. Abrams, executive secretary; Manning Starkman, regional director; Edward F. Keating, chairman of the Board; Wilkins Harden, president-elect; Henry H. Gregg, president; Lee E. Eiler, vice president; Frank Kunkel, regional director.

ACA annual meeting stresses public relations

Public relations, co-operation, legislation and regulation of the distribution of pharmaceuticals received spotlight attention at the annual convention of the American College of Apothecaries at Bal Harbour, Florida, February 14 to 17. Among the speakers concerned with these topics were Dr. Louis Orr, president of AMA; M.R. Stephens, director of the bureau of enforcement of FDA; FTC Commissioner Robert T. Secrest; Leonard R. Tibbetts, chairman, Massachusetts Board of Pharmacy, and Richard Strommen, director, pharmacy extension service, University of Wisconsin.

In his opening remarks, President Edward F. Keating provided the backdrop for the session with his stress on co-operation of ACA with APhA and his emphasis on the need for better communication within the profession. Said President Keating:

> We must integrate more closely with APhA. . . . I reject the premise that it is necessary to have one organization to foster the business interests of pharmacy and another to promote its professional well-being . . .
>
> One organization with proper subdivisions can certainly represent pharmacy "in toto."

New ACA officers are Henry H. Gregg of Minneapolis, president; Wilkins Harden of Columbus, South Carolina, president-elect; Lee E. Eiler of Dayton, Ohio, vice president, and Frank E. Kunkel of Cincinnati, Kenneth W. Heinz of Tucson and Manning Starkman of Toronto, regional directors. Past President Keating became chairman of the board of directors and Robert E. Abrams of Philadelphia continued as executive secretary and Charles V. Selby remained as treasurer.

More than half of the resolutions passed by the group concerned legislation, control of distribution or public relations. Briefly, the resolutions

urged APhA to prepare a model uniform state pharmacy act for use by the states;

sought co-operation of individual pharmacists to see that pharmacy boards were given sufficient legislative and regulatory powers to protect the public health;

expressed opposition to the Forand Bill and similar legislation;

gave active support to the Congressional resolution setting up a poison prevention week;

called for manufacturers and wholesalers to discontinue supplying unqualified individuals and outlets with pharmaceuticals; pharmacy boards and FDA to enforce existing laws controlling distribution; APhA to investigate possible changes in federal legislation to make it illegal to ship legend drugs in interstate commerce to unqualified individuals and outlets;

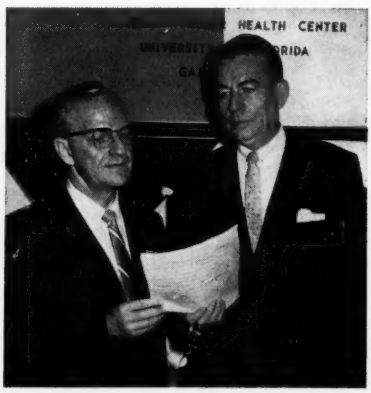
requested PMA to establish a uniform format for supplying information to the medical, dental and veterinary professions;

asked manufacturers to place the word "sample" on tablets and capsules and to supply proper toxicological and antidotal information on all new products; ACHA, AHA and ASHP to co-operate in helping to eliminate the practice of filling prescriptions for patients not registered in hospitals;

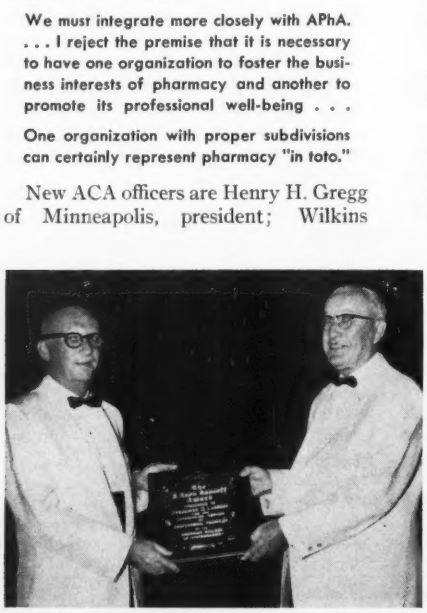
emphasized the need for a uniform controlled internship program;

proposed local, state and national associations establish grievance committees to regulate ethical standards and ACA and APhA an interprofessional council for compatability of ethical standards;

recommended that APhA through its department investigate the possibility of FDA's setting up a regulation restricting "over-the-counter" pharmaceuticals to registered pharmacists.



Dr. Louis Orr *(right)*, president of the American Medical Association, discussed his presentation with Edward Keating, ACA president, before going on the program.



To Dr. Frederic D. Lascoff *(left)* went the J. Leon Lascoff Memorial Award. Presenting the plaque was A.L. Malmo, first president of ACA.

Pharmacy Today

Student Branches

Albany College of Pharmacy—The beginning of a new semester found student branchers spending an evening at the Albany Hospital department of pharmacy. *Paul Parker*, national APhA director of the division of hospital pharmacy, spoke on the need for specialists and well-trained people to fill positions in hospital pharmacy. Following his speech, *Fay Peck, Jr.*, assistant pharmacist-in-chief at the hospital, moderated a panel discussion by students engaged in the practice of hospital pharmacy. Panel members were *Marilyn Cepiel, Helene Davis, Enel Karmo, David Kosegarten, John C. Smith* and *Craig Stowell.*

Columbia University—As a result of the recent merger between the APhA student branch and the college of pharmacy student council at Columbia, the college now has 100 percent membership in APhA. The new group is called the Student Council-APhA of CUCP. Its officers for the coming year are *Lee Nachman*, president; *Milo Gibaldi*, vice president; *Steven Klinghoffer*, treasurer, and *Stella Posner*, secretary.

Drake University—A valentine theme was carried out at the annual dance held last month by the student chapter of APhA. Chaperones at the dance were *Dr. and Mrs. C. Boyd Granberg* and *Dr. Wendell Southard.*

Fordham University—"The Antibiotics and Terramycin" was the title of a film shown by the APhA student branch to the student body of the college of pharmacy at a special meeting.

Massachusetts College of Pharmacy—Physician for the U.S. Olympic team, *Peter Bent*, was speaker at the February meeting of the student branch at the Massachusetts College of Pharmacy. Those attending the meeting enjoyed his humorous talk on "Fun, Fitness and Health."

Ohio Northern University—Members of ONU's student branch recently heard *W.A. Roland* of the Ohio State Board of Pharmacy speak on Ohio's new internship laws. Roland voiced the opinion that the new laws would bring more respect to the apprentice and the apprentice would, in turn, have more respect for pharmacy. New officers at Ohio Northern are *Larry Heller*, president; *Lyn Lloyd*, vice president; *Al Magalnick*, treasurer, and *Barbara Garris*, secretary.

Southwestern State College—Branch members of APhA got an insight into the future as they heard *Guy Rowe*, sales manager, McKesson and Robbins, speak at a recent meeting on the subject, "What Will Happen in the Drug Business in the Next Ten Years?" During the meeting, *Carrell Holsted*, student president, was presented with the McKesson-Robbins presidential award. *Dr. Charles Schwartz* and *Dr. C. Dwayne Ogzewalla* were elected to the loan fund committee.

St. John's University—Serving as officers of the student branch are *Michael J. Kopcho*, president; *Francis T. West, Jr.*, vice president; *Timothy G. Cloonan*, recording secretary; *Barbara J. Kurek* corresponding secretary, and *Frank P. Ursino*, treasurer. *Dr. John J. Sciarra* is faculty adviser to the group.

University of Cincinnati—Handling the gavel for the University of Cincinnati student branch members this year is a member of the distaff side, *Rosalie Oltman*. *James Hughes*, vice president and *Joseph Palermo*, secretary-treasurer, will assist her in planning branch activities.

University of Colorado—Members of the student branch at the University of Colorado are delving into areas other than pharmacy. Political science professor, *Dr. Rosek*, spoke at their February meeting, citing the needs for self-fulfillment and professional and citizenship training as three reasons for the necessity of education.

University of Florida—Elections at Mortar and Pestle, APhA student branch, in January brought *Ken Jowers, Don Pearson, Tom Daniel* and *Susanne Dunn* into power. Their positions—president, vice president, treasurer and secretary.

University of Mississippi—Handling the affairs of the APhA student branch for the coming year are *Claude Foster*, president; *Harry White*, vice president; *Claudette Dugger*, secretary, and *Louis Daniels*, treasurer.

University of Utah—At a meeting planned with the feminine touch by members of Kappa Epsilon, APhA student members at the University of Utah, heard *Dr. Stuart Harvey* speak on "Pharmacological and Sociological Effects of Alcohol." Dr. Harvey is professor of pharmacology at the university. Plans are being made for a student trip in March to the Eli Lilly, Upjohn and Walgreen Drug companies.

University of Washington—Student branch members recently met with

Occupants of the speaker's table at the recent seminar of the Indianapolis branch, APhA, and the Indiana Chapter of the American Society of Hospital Pharmacists included, *left to right*, Dr. John Christian, Purdue University, Mr. and and Mrs. Don Cosby, Chas. Pfizer and Company, Inc.; Frank Duncan, president, Indiana chapter, ASHP; Mrs. Kenneth Wood; Kenneth Wood, president, Indianapolis branch, APhA; Dean and Mrs. Lloyd Parks, Ohio State University; Dr. Robert C. Warner, Chas. Pfizer and Company, Inc.; Miss Mildred Wiese, secretary, Indiana chapter, ASHP and Paul Pumpian, secretary, Wisconsin State Board of Pharmacy.

To cut the incidence of colds at Wayne State University, Alpha Zeta Omega sponsored a campaign in which students, faculty and campus personnel received shots from the health center for just one dollar. Making payment to Leonard Cheifetz, AZO member, are Linda Samelson and Sally Wendland.

the Puget Sound branch of APhA to hear *R.E. Duckering*, secretary of the Retail Drug Association of King County, speak on "Pharmaceutical Ethics." Duckering is also a board member of the state pharmaceutical group.

University of Wisconsin—Movies of Wisconsin's trip to the Rose Bowl were presented at the February meeting of the APhA student branch. Officers elected to serve for the year ahead are *C. Schmitt*, president; *L. Koenig*, vice president; *Marcia Joelson*, secretary, and *Helen Gilbert*, treasurer.

Local Branches

Michigan—"The Price of Health—High or Low" was the topic of a seminar held last month at Wayne State University. Sponsors of the event along with the Michigan branch of APhA were the Wayne State college of pharmacy and pharmacy alumni association. Among the speakers at the all-day session were *Mark Woodward*, executive director of the Health News Institute; *Joseph G. Molner*, Detroit health commissioner; *W. Brooks Fortune*, director of control, Eli Lilly and Company, and *C. Wesler Scull* of the research and development division of Smith Kline and French Laboratories, Inc.

Oregon—President *Wayne Hatch* shared the speakers' platform at a recent meeting with presidents of three other Oregon pharmacy organizations: *Layke Seaton*, Oregon State Pharmaceutical Association; *Leigh Kelsey*, Portland Retail Pharmacists Association and *Fred Parkinson*, Marion-Linn County Pharmaceutical Association.

New York—New officers have assumed duties in the New York branch. They are *Albert J. Sica*, president; *E.E. Leuallen*, vice president; *Harry Kaye*, treasurer; and *Frank J. Pokorny*, secretary.

Northern California—Outgoing president, *Norman Guthrie*, received a gift from the board of directors at the January meeting of the Northern California branch. New president, *Dr. John Hampel*, stressed in his opening remarks that he would like to achieve during his term of office an increased membership and a high level of interprofessional understanding and co-operation. Other new officers are *Morris Boynoff*, vice president; *Dr. James McDavid*, secretary; and *Stephen J. Dean, Jr.*, treasurer.

Associations

Arkansas Pharmaceutical Foundation—*Tom Mattax* accepted the presidential duties of the Arkansas Pharmaceutical Foundation in January; *Stanley G. Mittelstaedt* assumed the duties of secretary-treasurer.

American Association of Colleges of Pharmacy—*Dr. C.H. Waldon*, dean of the University of Colorado school of pharmacy, has been named chairman of the general seminar committee of AACP. Serving on the committee, making plans for the July seminar, are CU professors, *Dr. Toney E. Jones* of the school of pharmacy and *Dr. Stephen Romine*, dean of the school of education, *Dean Bryl E. Benton* of Drake University, *Dr. Takeru Highuchi* of the University of Wisconsin, Dean *Robert Van Horn* of Montana, *Dr. Ewart Swinyard* of Utah, *Dean George Webster* of Illinois, *Dean Charles O. Wilson* of Oregon State College and *Dean Stephen Wilson* of Wayne State University, Detroit.

Hawaii Druggest Convention—Hawaii's first druggist convention since becoming the 50th state will be a joint affair. Co-operating in the venture, scheduled for May 30 to June 2, are the Hawaii Pharmaceutical Association, Hawaii Retail Druggist Association, Hawaii Medical Service Representatives and Drug Wholesalers of Hawaii. General chairman is *William C. Koch.*

New Jersey Pharmaceutical Association—Television should bar from its screen self-medication commercials which "do not reveal to the viewer such warnings, cautions and notices . . as are required by law to appear on their labels," *Joseph W. Mitluch*, president-elect of the New Jersey group, told the House of Delegates at its annual midwinter meeting. President *Edward C. White* in his comments urged legislation "which would restore safety and sanity in the sale and purchase of potentially hazardous self-medications." Principal speaker was *Dr. Frederick R. Lachman*, executive vice president of the American Friends of the Hebrew University of Jerusalem.

Pharmaceutical Council of Greater New York—To protect the public from misleading and fraudulent drug advertising and labelling, *S.B. Jeffries*, executive vice president of Sang and Pollak, Brooklyn, proposed that a special committee on pharmaceutical advertising and labeling be established. The committee of experts, Jeffries told the Council, would screen and evaluate advertising and labelling claims of over-the-counter medicines.

Pharmaceutical Manufacturers' Association—Added to the staff of PMA in February were *Dr. Robert J. Benford*, former editor of the *U.S. Armed Forces Medical Journal*, as director of medical relations and *Milton Golin*, former editor of the "Medicine at Work" section of the *Journal of the American Medical Association*, as assistant to the president for special projects.

Philadelphia Drug Exchange—To *Francis Boyer*, chairman of the board of Smith Kline and French Laboratories, went the Proctor Medal for his leadership in mental health, medical education and pharmaceutical research. The award in memory of William Proctor, Jr., father of modern pharmacy, was presented by the Philadelphia Drug Exchange at its annual banquet, January 27. Speaker at the dinner was *Dr. Robert H. Felix*, director of the National Institute of Mental Health.

Society of Pharmacists in Industry—Held on February 16, the first meeting of SPI for 1960 featured *Dr. Lloyd Miller*, director of revision for the *United States Pharmacopeia*. He discussed the *USP* in a convention year.

Tennessee Pharmaceutical Association—New officers for 1960 are *James H. Gentry* of Knoxville, president; *Harold Curtis* of Memphis, *Horton A. Jones, Jr.* of Nashville and *Drew Haskings* of Chattanooga, vice presidents; and *J. Frank Russell, Jr.* of Memphis, treasurer. *Thom C. Sharp* of Nashville is executive secretary.

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New Tamper-Proof Cap

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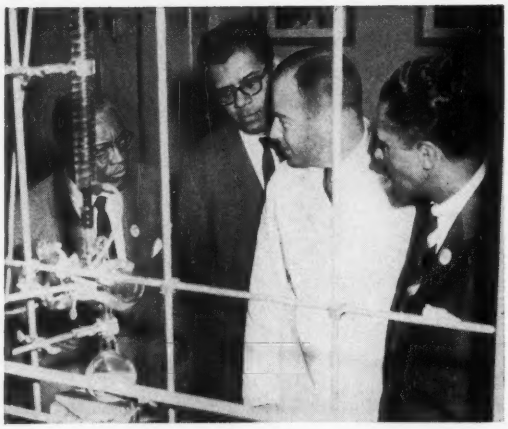

Discussing drug research with a scientist from Lederle Laboratories are faculty members from Howard University's medical school in Washington, D.C. Dr. John B. Johnson, professor of medicine, Gerald Strange, senior class president, and Dr. Burke Syphax (far right), head of the surgery department, were on a field trip to give senior medical students a picture of the pharmaceutical industry's research programs.

Colleges

Brookyln College of Pharmacy—The seventh annual public health forum covering the fields of health, science and pharmaceutical management will be held on April 26 and May 3 at Brooklyn College.

Columbia University—In a talk to pharmacy juniors at Columbia, *Dr. Herbert Felsenfeld* discussed cancer chemotherapy and new drugs for cancer.

Fordham University—A panel discussion on the science of pharmacy highlights the second radio program put on by Fordham's college of pharmacy. Scheduled for March 16, it will feature student members of Rho Chi. The first program on February 17 presented *Dr. Bernard Grabowski*, assistant professor of chemistry who discussed chemistry in pharmacy.

Kappa Epsilon—A new chapter was added to Kappa Epsilon, national pharmacy fraternity for women, on January 28. In an installation ceremony the Pharmacy Debs Chapter at Southwestern State College school of pharmacy became Alpha Beta Chapter of Kappa Epsilon. New officers are *Frances Brown*, president; *Janice Whetzel*, vice president; *Frances Babb*, secretary-treasurer.

Philadelphia College of Pharmacy and Science—Nineteen upperclass scholarship awards were given to outstanding pharmacy students. The Borden awards to graduate students were won by *Robert H. Johnson* of Philadelphia and *John J. Toomey* of Shenandoah, Pennsylvania. "You and Your Health" is the theme of a new series of television broadcasts by members of the faculty of the Philadelphia college. Registrar *John E. Kramer* acts as host on the series which began February 2 and will continue through May 24.

St. John's University—Community, hospital and industrial pharmacy and medical detailing will hold the stage at the annual St. John's University pharmacy congress on March 17. This four-part program will cover such questions as over-the-counter pharmaceuticals, legal aspects of hospital pharmacy, oral sustained action medication, and what is expected of the medical service representative. Guest speaker at the luncheon will be *Henry L. Giordano*, deputy commissioner of the treasury department of narcotics.

Ralph Krummenacher

C. Rollins Hanlon

H. W. McNey

St. Louis College of Pharmacy—To *Dr. C. Rollins Hanlon*, professor of surgery at the St. Louis University school of medicine; *H.W. McNey*, director of marketing for Lederle Laboratories, and *Ralph K. Krummenacher*, president of Rexall 66 drug store in St. Louis went honors for outstanding contributions to pharmacy and medicine at the annual awards dinner of the college held February 27. Dr. Hanlon was selected as physician of the year and McNey and Krummenacher as pharmacists of the year.

University of California—A two-day course in dermatology was presented to pharmacists by faculty members of the University of California schools of medicine and pharmacy. Guest speaker on the program was *Louis C. Zopf*, dean of the college of pharmacy at the State University of Iowa. He discussed the pharmaceutical aspects of dermatology.

University of Georgia—Under the direction of the University of Georgia school of pharmacy and the Southern college of pharmacy of Mercer University, the second annual drug merchandising conference, sponsored by the Augusta, Columbus and Macon divisions of McKesson and Robbins, Inc., was held in January at the center for continuing education at the Georgia university. Objective of the conference—overall appraisal of the retail drug industry.

University of Maryland—A combined graduate study-residency program in hospital pharmacy will start in September at the University of Maryland school of pharmacy and university hospital. Upon completion of the 22-month course, the student will be awarded an MS degree and a certificate of residency in hospital pharmacy. Applicants must be graduates of accredited colleges or schools of pharmacy and able to meet the requirements for admission to the graduate school of Maryland. Deadline for letters of application is April 1. Letters should be addressed to *Lad F. Grapski*, director, University Hospital, University of Maryland, Baltimore 1, Maryland.

University of Southern California—In its sixth year the traveling seminar program initiated by the Southern California school of pharmacy brings information on new developments to pharmacists in their own areas. To date four meetings have been held in Fresno, three in Porterville and an all-day session is scheduled for Petaluma on April 24. Plans for additional programs are also underway.

University of Texas—Slated to be on the program of the 12th annual Texas hospital pharmacy seminar in April at the University of Texas college of pharmacy are *Vernon Trygstad*, president of ASHP; *Samuel Hopper*, professor of public health at the University of Indiana, and *Dr. and Mrs. Don E. Francke* of University Hospital, Ann Arbor, Michigan.

Washington State University—*Dr. Allen I. White* became dean of the Washington State University school of pharmacy on February 1. He

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succeeds *Dean Haakon Bang* who requested a return to teaching and research duties. Coming to Washington in 1940 as an instructor holding three degrees from the University of Minnesota, Dr. White rose to the rank of professor in 1948. At present he is working in the area of analgesic drugs under a $41,000 grant from the Public Health Service.

Industry

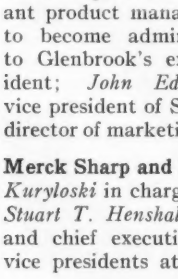
Abbott Laboratories—February 19 marked the 45th service anniversary with Abbott for *David D. Stiles*, director of market development. In the sales department for 31 years, Stiles organized the company's marketing activities in 1950 and set up the national prescription survey. In 1959 he was elected to the hall of fame of the eastern and midwestern pharmaceutical research groups and in 1958 he was one of the five finalists for the American Druggist Man of the Year award.

Ciba Pharmaceutical Products, Inc.—*Lawrence H. Zahn*, director of the purchasing and package development division of Ciba has been selected to represent the pharmaceutical industry as a member of the Committee for Economic Development, industry finance committee. Zahn joined Ciba in 1944 and has been active in many industry and government projects.

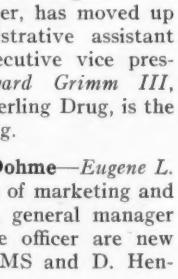
Glenbrook Laboratories Division—*J.N. Cooke*, president of Glenbrook, announced three appointments recently. *Glenn W. Johnston*, divisional vice president of the Sterling Drug subsidiary, has been made administrative assistant to the director of marketing; *B. Felix McGuigan*, assistant product manager, has moved up to become administrative assistant to Glenbrook's executive vice president; *John Edward Grimm III*, vice president of Sterling Drug, is the director of marketing.

Merck Sharp and Dohme—*Eugene L. Kuryloski* in charge of marketing and *Stuart T. Henshall*, general manager and chief executive officer are new vice presidents at MS and D. Henshall has been with the firm since 1930 and Kuryloski since 1937. At the firm's research laboratories *Dr. Cornelius J. O'Donovan* has been appointed director of medical specialties and *Dr. Elmer H. Funk, Jr.*, associate director of medical services.

Eugene L. Kuryloski



Stuart T. Henshall



Elmer H. Funk, Jr.

C. J. O'Donovan

Chas. Pfizer and Company, Inc.—Appointed executive director of research and development for Pfizer, *Dr. Ernest M. Weber* will assist vice president *Dr. Jasper H. Kane*. Weber has climbed to his present post from the ranks since he got his start with the company in 1942 as research biochemist. *Charles T. Haffey* has been appointed director of purchases, succeeding *Frank J. D'Antonio* who retired after 42 years of service. Haffey began his career with Pfizer in 1947.

E.R. Squibb & Sons—To develop, advertise and distribute new Squibb consumer products will be the responsibility of Squibb Laboratories, a new marketing unit formed within E.R. Squibb and Sons. *C. W. Lemkau* is head of the new unit which will conduct its own research programs in the consumer area.

Necrology

John G. Bill, president, Merck Sharp and Dohme, December 27, 1959.

S. DeWitt Clough, retired president and board chairman, Abbott Laboratories, January 31, 1960.

John McLean Hawkins, president, American Ferment Company (Sterling Drug subsidiary), December 16, 1959.

James Hill, Jr., board chairman and chief executive officer, Sterling Drug, Inc., January 27, 1960.

D.A. McGinty, research scientist, Parke, Davis and Company, January 26, 1960.

George W. Perkins, director, Merck and Company, Inc., January 10, 1960.

Upjohn Company—Speaking at the central region conference of the Pharmaceutical Manufacturers Association, *Dr. E. Gifford Upjohn*, president of Upjohn Company, suggested that voluntary insurance which would include the costs of drugs was the answer to the problem of paying for modern medical care. Taking issue with Senator Estes Kefauver's charges, he said he was certain there was no need for restrictive legislation.

Wyeth Laboratories—Moving into the post of assistant vice president for research and development at Wyeth was *Dr. Richard Bogash*, formerly director of product development. Dr. Bogash has been with the firm since 1947.

International

Health Congress—Delegates from all parts of the world will gather at Torquay, Devon, England, April 25–29, for a health congress. A special group—the world health section—will discuss world population and a health exhibition will provide equipment and product exhibits as well as government, trade and research displays.

International Congress of the Pharmaceutical Sciences—A report of the 19th FIP will be published in May, 1960. Edited by the Swiss Pharmaceutical Association the report will carry the papers presented at the meeting held in Zurich in September, 1959, communications to each section and reports on the discussions. Cost of the 450-page report is S.Fr. 25 per volume to members of the Scientific Section of FIP who did not attend the Congress and S.Fr. 35 to others. Payments for the report must be made before April 15 to Internationaler Kongress der Pharmazeutischen Wissenschaften, Clausiusstrasse 25, Zurich 6, Switzerland.

Ontario Retail Pharmacists' Association—The stability of drug prices and the work and research that goes into the introduction of a new drug were described by *H.J. Brown*, president of the Canadian Pharmaceutical Association, in a talk to the Ontario group in February. He emphasized the advantages of using trade names and stressed the responsibility of the pharmacist for the patient's safety.

Pharmacists

Louis J. Fischl—Past president of APhA, Louis J. Fischl, has taken on new duties. He will head the 1960 fund drive for the Alameda County Branch of the American (California) Cancer Society. This drive will be held during April, National Cancer Control month. Fischl also serves on the Council of APhA.

℞ Information Service *by Samuel W. Goldstein*

ophthalmic solution

A physician writes for the following:

Iso-Sol soln. pH 7	10 cc.
Zinc sulfate	30 mg.
Sodium chloride	200 mg.
Neo-Synephrine ophth. soln. 2.5%	1 cc.
Chloramphenicol	50 mg.
Antistine ophth. soln. q.s. ad	20 cc.

Can the precipitate we get be avoided? We get it whether we use Chloromycetin powder for ophth. soln. or the powder from Chloromycetin caps.—M.A.C., Puerto Rico.

The use of an isotonic, pH 7 buffered solution (Iso-Sol soln.) in this combination does not consider the lower pH requirement for stability of the added ophthalmic solutions. Among the known incompatibilities for Antistine (antazoline phosphate) ophth. soln. is zinc sulfate (see *Husa's Pharmaceutical Dispensing*, 5th ed., Mack Publishing Co., 1959, p. 538). Chloramphenicol is not included as a known compatible or incompatible substance with Antistine ophth. soln., but Chloromycetin ophth. soln. is stated to be incompatible with Antistine-Privine nasal soln. The powder from any oral capsule should not be used in an ophth. soln. unless the manufacturer specifically states that such use is permissible. The mixture of 3 isotonic ophth. solns. would be isotonic and the addition of the sodium chloride would be unnecessary unless a hypertonic solution is desired.

chlorhexidine sterilizing solution

Can you give information about, and a source for, chlorhexidine which can be used as a sterilizing solution, particularly in hospitals?—M.F., District of Columbia.

Chlorhexidine is produced by Imperial Chem. Ind. Ltd. (England). Chemically it is bis(*p*-chlorophenyldiguanido)-hexane. It is marketed by Imperial Chem. Pharmaceuticals under the trade name Hibitane as the di-HCl salt in lozenges and as the diacetate for sterilizing solutions. Chlorhexidine diacetate is soluble to about 1.9% in water; the di-HCl salt is soluble only to 0.06%; the digluconate can make a 50% solution. Hibitane lozenges containing the di-HCl salt are marketed in the U.S. by Ayerst Labs. Several experimental forms of chlorhexidine (essentially creams and solutions) are available to qualified investigators through the medical department of Ayerst Labs.

insect sting immunizer

Can you give us information about polyvalent insect sting immunizing agents reported in Modern Med. and in New Engl. J. Med. Is this material available?—R.J.G., New York.

The polyvalent insect sting immunizing agent is probably the Mixed Insect Sting Extract marketed by Hollister-Stier Labs. See THIS JOURNAL, **19,** 735 (Dec., 1958) for a description of a procedure used to prepare "Bee Extract for Bee Stings."

modumate

Can you help us with a request from Argentina for a drug called Modunate (sic)? We believe it is an Abbott product but we can not find it in U.S. sources.—M.G., District of Columbia.

The product Modumate (not 'nate') is Abbott's arginine glutamate, which is intended for the treatment of ammonia intoxication due to hepatic failure. It was mentioned in *Unlisted Drugs*, **11,** 49 (May 1959) and was covered fully in "Physicians' Desk Reference," 13th ed., 1959. This was probably an editorial oversight because the FDA New Drug Application was approved in January, 1960. This accounts for the absence of Modumate from Abbott's catalogue and other drug listings (*see p. 181 for product information.*)

Toohy, Doerr head AFPE

John J. Toohy

John J. Toohy, general manager of E.R. Squibb and Sons, was re-elected president of the American Foundation for Pharmaceutical Education at its 18th annual meeting in January in New York. Charles D. Doerr, vice president, McKesson and Robbins, Inc., was elected vice president.

Returned to office also were Carl K. Raiser, assistant to the president of Smith Kline and French Laboratories, treasurer; James F. Hoge of Rogers, Hoge and Hills, counsel, and W. Paul Briggs, secretary.

New directors are William N. Creasy, president of Burroughs Wellcome and Company, Inc., and John T. Connor, president of Merck and Company, Inc. Re-elected were H.A.B. Dunning, chairman of the board at Hynson, Westcott and Dunning, Inc., S. Barksdale Penick, Jr., president of S.B. Penick and Company, and John G. Searle, president of G.D. Searle and Company.

For 1960–61 the Foundation will have a budget of $265,200 to support its educational projects. These include providing undergraduate scholarships in colleges and supporting doctoral studies in pharmacy and related fields. During the last academic year, the Foundation provided undergraduate scholarship awards in 61 colleges for 158 pharmacy students and is currently maintaining 71 graduate fellowships in 27 universities.

The foundation also supports The American Council on Pharmaceutical Education, annual teachers' seminars, *The American Journal of Pharmaceutical Education* and the pharmacy student recruitment program. To the American Association of Colleges of Pharmacy the Foundation has given $160,000 for AACP's long-range pharmacy student recruitment program. Two specially prepared color movies for showing to high school and junior college students were included in the provision.

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APhA Handy
Drug Reference

An all-inclusive, cumulative, twelve-month alphabetical listing of new drugs and dosage forms, changes in available dosage forms, and clinical test results of newer drugs. *Notations:* NND—abstracts of descriptions of new and nonofficial drugs by AMA Council on Drugs. Dosage—adult unless otherwise indicated. Clinical (clin.)—investigational drug not available commercially. O-t-c—salable over-the-counter (without prescription). ℞—prescription required. *Abbreviations:* amp. (ampul), b.i.d. (twice a day) cap. (capsule), combn. (combination), equiv. (equivalent), i.m. (intramuscular or –ly), i.v. (intravenous or –ly), inj. (injection), liq. (liquid), oint. (ointment), ophth. (ophthalmic), q.i.d. (four times a day), s.c. (subcutaneous or –ly), soln. (solution), suppos. (suppository or –ies), susp. (suspension), syr. (syrup) tab. (tablet), tbsp. (tablespoon or –ful), tsp. (teaspoon or –ful), t.i.d. (three times a day).

a/50 caps. (Podiatrex), p. 108.

Acetophenetidin, sulfhemoglobinemia effect, p. 48.

Acetylcarbromal, see combns. in Amril tabs. (Amfre-Grant), p. 174; in Carbadex caps. (Sanford), p. 176.

N-Acetyl-*p*-aminophenol, see Anelix elix. (Kirkman), p. 174; combns. in Novahistine Singlet tabs. (Pitman-Moore), p. 111; in Thorphan syrup (Bryant), p. 114.

Ado-Caps/Plus Capsules (Crystal). Per gradual release cap.: *d*-amphetamine sulfate 15 mg., amobarbital 60 mg. In depressive states, obesity control, alcoholism, drug-induced drowsiness, nausea and vomiting of pregnancy. *Dosage:* 1–2 caps. on arising or at breakfast. If taken later may cause insomnia. Contraindicated in hyperexcitability and agitated prepsychotic states; use cautiously in cases of coronary or cardiovascular disease, in severe hypertension and in patients hypersensitive to sympathomimetic compounds. Bottles of 100 and 1000. ℞.

Aerocaps Capsules for C.M.C. Insufflator (Consol. Midland). Specially designed caps. contain in each: phenylpropanolamine HCl 25 mg.; phenylpropanolamine HCl 15 mg. with neomycin sulfate 3.5 mg.; phenylpropanolamine HCl 20 mg. with phenylephrine HCl 5 mg.; hydrocortisone acetate 15 mg.; hydrocortisone acetate 15 mg. with chlorpheniramine maleate 2 mg.; procaine penicillin 100,000 u.; posterior pituitary 30 mg. After the cap. is pierced with the needle in the insufflator the medication is administered into the nasal or oral cavity by squeezing the bulb. The number of squeezes is indicated in the directions for each package of Aerocaps. The first 3 in vials of 24; the last 4 in vials of 12. ℞.

Aldactone tabs. (Searle), p. 48; p. 108.

Aldimate tabs. (Crestmed), p. 48.

Allantoin, see combn. in Altara gell (Dome), p. 48.

Almezyme caps. (Meyer), p. 48.

Almezyme Liquid (Meyer). Per 5 cc.: Mylase-100 10 mg. (starch digestant), Prolase-300 10 mg. (protein digestant), vit. B_{12} 25 mcg., in sorbitol vehicle. To improve digestion and absorption from alimentary tract and improve appetite. *Dosage:* 1 tsp. t.i.d.; children twice daily after meals. 4-oz. bottles. ℞.

Altara gell (Dome), p. 48.

Aluminum aspirin, see Analexin-AF tabs. (Irwin, Neisler), p. 108.

Aluminum hydroxide, see combn. in Decagesic tabs. (Merck S&D), p. 177; combn. in Loupred tabs. (Louisons), p. 110.

Amino acid-vitamin-iron combn., see combn. in Basigets Ultima tabs. (Kendall), p. 176.

***p*-Aminosalicylic acid,** see Phenistix test (Ames), p. 112.

Ammonium chloride, see combn. in Pedical pediatric liq. (Lemmon), p. 182.

Amobarbital, see combns. in Ado-Caps/Plus caps. (Crystal), p. 174; in Panrexin TP Panseals (Pan American), p. 112.; in Sedamasal caps. (Finley), p. 184.

***d*-Amphetamine HCl,** see combn. in Carbadex caps. (Sanford), p. 176.

***d*-Amphetamine sulfate,** see combn. in Ado-Caps/Plus caps. (Crystal), p. 174; in Appetrol tabs. (Wallace), p. 48; in Bamadex tabs. (Lederle), p. 49; in Eskatrol Spansule caps. (SK&F), p. 51; in Panrexin TP Panseals (Pan American), p. 112.

***l*-Amphetamine sulfate,** see Lavabo tabs. (Superior), p. 110.

Amphotericin B, see combn. in Mysteclin-F for aqueous drops and for syrup (Squibb), p. 181.

Amril Tablets (Amfre-Grant). Per 2-layer tab.: acetylcarbromal 200 mg., mephenesin 150 mg., reserpine 0.05 mg. For reduction of tension and nervousness. *Dosage:* Sedative, 1 tab. 2–3 times daily; soporific, 2 tabs. before retiring. Use cautiously in gastrointestinal upset. Bottles of 50, 100, and 1000. ℞.

Amurex Capsules (Reid). Per cap.: methionine 200 mg. For diaper rash and meatitis in infants and to counteract ammoniacal urine or ammonia dermatitis in adults. *Dosage:* infants, contents of 1 cap. in daily formula (while warm), may be doubled in children over 1 yr. or in severe cases. Control of urine odor in incontinent adults, 1 cap. t.i.d. Bottles of 30. O-t-c.

Analeptone-Anabolic tabs. (Reed & Carnrick), p. 48.

Analexin and **Analexin-AF** tabs. (Irwin, Neisler), p. 108.

Anelix Elixir (Kirkman), with 120 mg. N-acetyl-*p*-aminophenol per 5 cc., is now available in 2-oz. plastic squeeze bottle and pts.

Anhydroxyprogesterone, see combn. in Predictabs tabs. (Drug Specialties), p. 112.

Antacids and acid rebound, p. 48.

Antibiotics in penicillin-sensitive syphilitics, p. 48.

Anti-M Lectin (Hyland). Specific blood typing reagent for factor M, prepared from *Iberis amara* seeds as a water-clear ext. For rapid blood typing in cases of disputed parentage. 2-cc. vials. Keep in normal refrigerator. Diagnostic.

Anti-N Lectin (Hyland). Specific blood typing reagent for factor N, prepared from *Vicia graminea* seeds as a water-clear ext. For rapid blood typing in cases of disputed parentage. 2-cc. vials. Keep in normal refrigerator. Diagnostic.

Antipyrine, see combn. in Rhinalgan HC nasal spray, (Doho), p. 184.

APC mixture, see combn. in Di-cold tabs. (Haug), p. 50; in Rapadyne tabs. (Knoll), p. 184.

Appetrol tabs. (Wallace), p. 48.

Arginine glutamate, see Modumate inj. (Abbott), p. 181.

Arginine hydrochloride NND; Argivene (Gray), p. 108.

Argivene (Gray), see arginine HCl NND, p. 108.

Aristocort diacetate syr. (Lederle), p. 48.

Ascorbic acid, see Liqui-cee (U.S. Stand-

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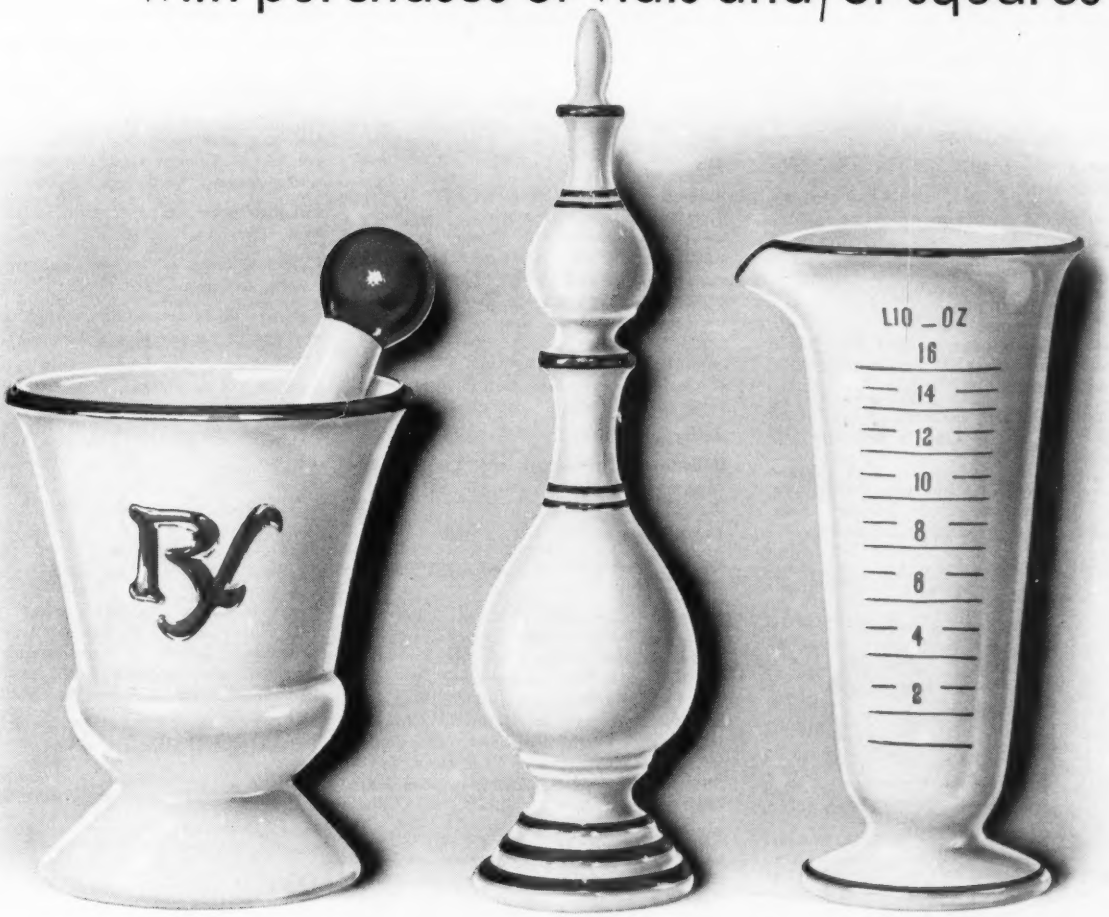

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ard), p. 180; combns. in Calsans tabs. (Podiatrex), p. 109; in Coferic tabs. (Crestmed), p. 50; in Di-cold tabs. (Haug), p. 50; in Normacap tabs. (Podiatrex), p. 111; in Noscaphen wafers (Bruce Parenterals), p. 111; in Thorphan and Thorphan, Jr. syrups (Bryant), p. 114; in Velacycline injs. (Squibb), p. 186.

Asophyllin Tablets (Crystal). Per tab.: in outer layer—isoproterenol 10 mg.; in core (separated by lemon-flavored coating)—racephedrine HCl 16 mg., phenobarbital 8 mg., dyphylline 130 mg. For control of bronchospasm in chronic asthma. *Dosage:* Orally, 1 tab. every 4 hrs. For sudden attack, 1 tab. sublingually until lemon flavor disappears (about 5 minutes) then swallow remainder of tab. Bottles of 100 and 1000. ℞.

Aspartocin, clin., p. 48.

Aspirin, see combn. in Decagesic tabs. (Merck S&D), p. 177.

Aspirin and **Bufferin**—effect on gastroacidity, p. 108.

Aspirin w/$Al(OH)_3$ and $Mg(OH)_2$, see combn. in Synex-SA caps. (Phila. Ampoule), p. 114.

Atarax (Roerig), see hydroxyzine HCl in dental practice, p. 52; parenteral soln. (Roerig), p. 48.

Atropine sulfate, see combns. in Beldox caps. (Sanford), p. 176; in Doncarb tabs. (Crestmed), p. 51.

Atropine sulfate Injection (Wellcome). Per cc.: atropine sulfate 0.5 mg. Anticholinergic in preanesthetic medication to

suppress secretions and vagal excitation of the heart. *Dosage:* 0.5 mg. i.v., i.m., or s.c. Multi-dose vials of 20 cc. ℞.

Aveeno-Bar detergent (Fougera), p. 49.

Azo Kynex tabs. (Lederle), p. 48.

Azure A carbacrylic resin, see azuresin NND, p. 49.

Azuresin NND, p. 49.

B-12 Plex c C inj. (Phila. Ampoule), p. 49.

Bacid Capsules (U.S. Vit. & Pharm.). Per cap.: a cultured human strain of viable *Lactobacillus acidophilus* with sodium carboxymethylcellulose 100 mg. Source of aciduric flora in diarrhea, flatulence, perianal itching, etc., due to antibiotics or tainted food or water; as aid in functional constipation, irritable colon, and diverticulitis. *Dosage:* 2 caps. 2–4 times daily, preferably with milk. Bottles of 50. Refrigerate. O-t-c.

Bamadex tabs. (Lederle), p. 49.

Barcole tabs. (Haag), p. 109.

Basigets Ultima Tablets (Kendall). Per capsule-shaped, yellow, coated tab.: methylandrostenediol 2.5 mg., ethinyl estradiol 5 mcg., vit. A 4000 u., D 400 u., B_{12} 3 mcg., B_1 (nitrate) 1 mg., B_2 2 mg., B_6 0.5 mg., C 30 mg., niacinamide 10 mg., panthenol 1 mg., monosodium glutamate 50 mg., methionine 25 mg., L-lysine 50 mg., hesperidin complex 25 mg., yeast protein hydrolysate 50 mg., $CoCl_2$ 5 mg., $FeSO_4$ 75 mg. Anabolic, hematinic and nutrient for geriatric patients. *Dosage:* 1 tab. after meals t.i.d. Bottles of 100 and 500. ℞.

Beldox Capsules (Sanford). Per cap.: dioctyl sodium sulfosuccinate 20 mg., hyoscyamine sulfate 0.1037 mg., atropine sulfate 0.0194 mg., hyoscine HBr 0.0065 mg., phenobarbital 16 mg. For treatment of visceral spasm due to gastrointestinal, uterine, or visceral origin. *Dosage:* 1 cap. q.i.d. or 2 caps. t.i.d. Avoid frequent or prolonged use; use cautiously if dryness of throat occurs; discontinue if pulse is rapid or vision blurs. Bottles of 100. ℞.

Belfer tabs. (Durst), p. 49.

Belladonna alkaloids, see combn. in Malglyn compound magma (Brayten), p. 180.

Bendectin tabs. (Merrell), p. 109.

Bentyl HCl (Merrell), see dicyclomine HCl NND, p. 50.

Benulax Suspension (Merrell). Per 15 cc.: dicyclomine HCl 15 mg., sodium lauryl sulfate 30 mg., polyglucose gum, modified, 2.7 Gm., casanthranol 90 mg. For spastic constipation and colitis, functional and chronic constipation. Contraindicated in mechanical bowel obstruction or appendicitis. *Dosage:* 1–2 tbsps. (15–30 cc.) at bedtime for chronic constipation. 6-oz. bottles. ℞.

Benulone Suspension (Merrell). Per 15 cc.: dicyclomine HCl 15 mg., sodium lauryl sulfate 30 mg., polyglucose gum, modified, 2.7 Gm. For chronic and functional constipation. May be used with other drugs for gastrointestinal conditions. Contraindicated in mechanical bowel obstruction. *Dosage:* Chronic constipation, 30 cc. at bedtime; spastic constipation, 15 cc. after each meal. 12-oz. bottles. ℞.

Benzonatate NND, p. 49.

Benzthiazide, clin., p. 49.

Benztropine methanesulfonate, see Cogentin inj. (Merck S&D), p. 177.

Benzydroflumethiazide, see Naturetin tabs. (Squibb), p. 111; combn. in Naturetin w/K tabs. (Squibb), p. 181.

Beta-pyridyl carbinol, see Roniacol Timespan tabs. (Roche), p. 184.

Bioflavonoid complex, citrus, see combn. in Normacap tabs. (Podiatrex), p. 111.

Bismuth sodium triglycollamate, see Bistrimate tabs. (Smith, Miller & Patch), p. 109.

Bistrimate tabs. (Smith, Miller & Patch), p. 109.

Broxil (Beecham Research Labs., Ltd., England), p. 49.

Burow's soln., see combn. in Hyburquin cream (Texas Pharmacal), p. 51.

Butabarbital sodium, see combn. in Monosyl tabs. (Arcum), p. 111.

Butacaine, see Butyn Metaphen dental oint. (Abbott), p. 49.

Butyn Metaphen dental oint. (Abbott), p. 49.

Cadmium sulfide NND, p. 49.

Caffeine, see combns. in Noscaphen wafers (Bruce), p. 112; in Pancidin tabs. and Pancidin Forte Panseals (Pan American), p. 112.

Calcium acetylsalicylate carbamide, see combn. in Ursinus tabs. (Smith-Dorsey), p. 114.

Calcium carbonate, see combn. in Doncarb tabs. (Crestmed), p. 51.

Calcium (citrate, lactate, sulfate), see combn. in Calsans tabs. (Podiatrex), p. 51.

Calcium dioxytetracycline with N-acetylglucosamine, see combn. in Cosa-Terrabon (Pfizer), p. 177.

Calcium pantothenate, see Panthoject soln. (U.S. Vit. & Pharm.), p. 53.

Calettes No. 1 and No. 2 Tablets (Crystal). Per No. 1 (pink) tab.: bone meal 420 mg., ferrous sulfate 200 mg., vit. A 1000 u., D 500 u., C 25 mg., B_1 1 mg., B_2 1 mg., niacinamide 3 mg., KI 0.065 mg., $CoSO_4$ 1 mg., $CuSO_4$ 1 mg., MgO 10 mg., $MnSO_4$ 14 mg., K_2SO_4 11 mg., ZnO 1.25 mg., Na molybdate 0.4 mg. Each No. 2 (blue) tab. has above ingredients except phosphorus is omitted. Dietary supplement in pregnancy, lactation, convalescence and iron deficiency anemias. *Dosage:* 1 tab. 2–3 times daily after meals. Bottles of 100 and 1000. O-t-c.

Calsans tabs. (Podiatrex), p. 109.

Calurin (Smith-Dorsey), see combn. in Ursinus tabs. (Smith-Dorsey), p. 114.

Cantil (Lakeside), see mepenzolate methylbromide NND, p. 180.

Capsebon (Pitman-Moore), see cadmium sulfide NND, p. 49.

Carbadex Capsules (Sanford). Per cap.: *d*-amphetamine HCl 5 mg., acetylcarbromal 260 mg. Adjunct in treatment of obesity and depression. Contraindicated in hypertension and tachycardia. *Dosage:* Individualized; 1 cap. 30 minutes before breakfast and before lunch, repeated in midafternoon if needed. Bottles of 100. ℞.

Cardenz Tablets (Miller Pharmacal). Per tab.: Mg ascorbate 25 mg., MgO 15 mg., inositol 30 mg., Mg *p*-aminobenzoate 10 mg., Mg gluconate 200 mg., K gluconate 50 mg., vit. A 2000 u., B_6 1.5 mg., B_{12} 1 mcg., D 100 u., E 5 mg., folic acid 0.3 mg., niacinamide 20 mg., hesperidin complex 10 mg., iodine 0.05 mg. Adjuvant for prophylaxis and treatment of atherosclerosis and other nutritional heart abnormalities. *Dosage:* 1–2 tabs. with meals. Bottles of 100. Distributed by Baylor Labs. ℞.

Cardiografin (Squibb), see methylglucamine diatrizoate NND, p. 111.

Carisoprodol, see Rela tabs. (Schering), p. 113; Soma caps. (Wallace), p. 54.

Carrhist elixir (Carrtone), p. 49.

Casanthranol, see combn. in Benulax susp. (Merrell), p. 176.

Cervilaxin (National Drug), see relaxin NND p. 54.

Cetyldimethylbenzylammonium chloride, see combn. in Pharycidin concentrate (Purdue Frederick), p. 53.

Cevex tabs., (Walker), p. 49.

Charcoal, activated, see combn. in Barcole tabs. (Haag), p. 109.

Chel-Iron (Kinney), see ferrocholinate p. 178.

Chlordantoin, see Sporostacin cream (Ortho), p. 113.

Chlormethazanone, p. 49.

Chlormezanone, p. 49.

Chlorpheniramine maleate, see Novahistine Singlet tabs. (Pitman-Moore), p. 111; Ornade Spansule caps. (SK&F), p. 181; see combns. in Carrhist elixir (Carrtone), p. 49; in Covan tabs. (Van Pelt & Brown) p. 50; in Di-cold tabs. (Haug), p. 49; in Guaiahist TT tabs. (Columbus), p. 51; in Hasanone #2 syrup (Haskell), p. 178; in Nolamine expectorant syrup (G.W. Carnrick), p. 53; in Pancidin tabs. and Pancidin Forte Panseals (Pan American), p. 112; in Pedisal pediatric susp. (Lemmon), p. 182; in Synex and Synex-SA caps. (Phila. Ampoule), p. 114; in Thorphan syrup (Bryant), p. 114; in Tristacomp liq. and tabs. (Physicians), p. 114; in Tussahist syr. (Finley), p. 186.

Chlorpromazine—Hypothermic reactions, p. 49.

Choline salicylate, see combn. in Pharycidin concentrate (Purdue Frederick), p. 53.

Clarin (Leeming), see heparin potassium NND, p. 180.

C.M.C. Insufflator (Consol. Midland). The pocket-size insufflator is a 2-piece plastic barrel which separates to admit one of the specially designed capsules (Aerocaps) containing the therapeutic agents. When the barrel is closed both ends of the capsule are pierced by a needle which is fixed in the end piece. Used for intranasal-intraoral insufflation therapy. Device.

Coal tar, synthetic, see combn. in Synta and Synta w/hydrocortisone oints. (Dumas-Wilson), p. 185.

Coal tar soln. see combn. in Altara gell (Dome), p. 48; in Cor-tar-quin (Dome), p. 50; in Hyburquin cream (Texas Pharmacal), p. 51.

Cobalt chloride, see combn. in Coferic tabs. (Crestmed), p. 50.

Codeine phosphate, see combn. in Tussahist syr. (Finley), p. 186.

Coferic tabs. (Crestmed), p. 50.

Cogentin Injection (Merck S&D). Per cc.: benztropine methanesulfonate 1 mg. For relief of Parkinson-like dystonic crises symptoms that might occur during therapy with certain tranquilizers (phenothiazine derivatives or reserpine); also in symptomatic treatment of Parkinson's syndrome when oral medication is not possible or would be a hardship because of difficulty in

breathing; for relief of tremor and rigidity, drooling, mask-like facies, speech and writing difficulties, gait disturbances, and pain and insomnia due to muscle spasm. *Dosage:* I.m. or i.v. inj. as determined by physician. Amps. of 2 cc. in boxes of 6. ℞.

Colchicine synthesized, p. 109.

Colistin, see Coly-mycin (Warner-Chilcott), p. 50.

Colistin sulfate, see Coly-mycin S (Warner-Chilcott), p. 50.

Coly-mycin (Warner-Chilcott), clin., p. 50.

Coly-mycin M (Warner-Chilcott), p. 50.

Coly-mycin S (Warner-Chilcott), p. 50.

Compocillin-VK w/Sulfas for Oral Susp. (Abbott), p. 109.

Copper undecylenate, see Verdefam cream (Texas Pharmacal), p. 55.

Cor-tar-quin creme and lot. (Dome), p. 50

Cosa-Terrabon Suspension and Drops (Pfizer). Per 5 cc. oral susp.: 125 mg. Cosa-Terrabon (Terramycin as calcium dioxytetracycline with glucosamine as N-acetylglucosamine). Per cc. pediatric drops: 100 mg. Cosa-Terrabon. For common infections caused by susceptible organisms. *Dosage:* Oral susp., 1 Gm. daily (10 cc. q.i.d.); higher for severe infections. Children, based upon age, weight, and severity of illness. Drops, 10–20 mg. (2–4 drops per lb. in divided doses). Bottles of susp., 2 oz. and 16 oz.; drops, 10-cc. dropper bottles. ℞.

Cottonseed oil emulsion NND, p. 50.

Covan tabs. (Van Pelt & Brown), p. 50.

Cyclandelate NND, p. 50.

Cyclobar ophth. gel (Schieffelin), p. 50.

Cyclogyl (Schieffelin), see combn. in Cyclobar ophth. gel (Schieffelin), p. 50.

Cyclogyl Gel (Schieffelin), p. 109.

Cyclopentolate HCl, see Cyclobar ophth. gel (Schieffelin), p. 50; Cyclogyl gel (Schieffelin), p. 109.

Cyclophosphamide, see Cytoxan for inj. and tabs. (Mead Johnson), p. 50.

Cyclospasmol (Ives-Cameron), see cyclandelate, p. 50.

Cytoxan for inj. and tabs. (Mead Johnson), p. 50.

Danthron, see combn. in Doxisul tabs. (Crestmed), p. 50.

Daptren Tablets (Davis & Sly). Per double-scored pink tab.: scopolamine HBr 0.15 mg., pheniramine maleate 10 mg., Emecaine (ethyl aminobenzoate-aluminum hydroxide 1:5) 390 mg. For prophylaxis and treatment of nausea and vomiting and motion sickness. *Dosage:* Morning sickness: 1–2 tabs. on waking; repeat every 4 hrs. or as needed. Motion sickness: 2 tabs. 15–30 minutes before traveling then ½–1 tab. every 3 hrs. during travel or as needed. Meniere's syndrome: 1–2 tabs. every 4–6 hrs. Prophylaxis against nausea and vomiting associated with radiation sickness, G.I. disturbances, etc.: 1–2 tabs. every 4 hrs. Bottles of 100 and 1000. ℞. (Daptren name and formula used under license from Irwin, Neisler & Co.)

Decadron (Merck S&D), see combn. in Decagesic (Merck S&D), p. 177.

Decagesic Tablets (Merck S&D). Per tab.: dexamethasone (Decadron) 0.25 mg., aspirin 500 mg., aluminum hydroxide 75 mg. "Antidoloritic" for conservative management of patients with commonly encountered mild to moderate inflammatory disorders associated with pain. *Dosage:* Orally, as directed. Bottles of 100. ℞.

Dehydrocholic acid, see combn. in Almezyme caps. (Meyer), p. 50.

Depinar inj. (Armour), p. 50.

Dermagel w/Prednisolone Cream (Bruce Parenterals), p. 109.

Deserpidine, see combn. in Oreticyl tabs. (Abbott), p. 111.

Desoxycholic acid, see combn. in Therabile tabs. (Ascher), p. 185.

dl-**Desoxyephedrine HCl,** see combn. in Rhinalgan HC nasal spray (Doho), p. 184.

Dexamethasone, see combn. in Decagesic tabs. (Merck S&D), p. 177.

Dextran in nephrosis, p. 109.

Dextromethorphan HBr, see combns. in Pedicol pediatric liq. (Lemmon), p. 182; in Thorphan and Thorphan, Jr. syrups (Bryant), p. 114; in Tussin liq. (Dumas-Wilson), p. 186.

Dextromoramide, see Palfium, p. 112.

Diagnex Blue (Squibb), see azuresin NND, p. 49.

Diazomycins A, B, and C, clin., p. 50.

Di-cold tabs. (Haug), p. 50.

Dicyclomine HCl, see combns. in Benulax susp. (Merrell), p. 176; in Benulone susp. (Merrell), p. 176.

Dicyclomine HCl NND, p. 50.

Dihydrocodeinone bitartrate, see combns. in Hasanone #2 syr. (Haskell), p. 178; in Nolamine expectorant syr. (G.W. Carnrick), p. 53; in Rapadyne tabs. (Knoll), p. 184

Dihydroxyaluminum aminoacetate, see Aldimate tabs. (Crestmed), p. 48; combn. in Malglyn compound magma (Brayten), p. 180.

Diiodohydroxyquin, see combn. in Cortar-quin (Dome), p. 50.

Dioctyl sodium sulfosuccinate, see combns. in Beldox caps. (Sanford), p. 176; in Doxisul tabs. (Crestmed), p. 51.

Doncarb tabs. (Crestmed), p. 51.

Doxisul tabs. (Crestmed), p. 51.

Dyphylline, see combns. in Asophyllin tabs. (Crystal), p. 176; in Pentorock tabs. (Crystal), p. 182.

Dyphylline (Neothylline), see combn. in Min-io-phen tabs. (Paul Maney), p. 111.

Dyprin caps. (Lincoln), p. 110.

Echothiophate iodide, see Phospholine iodide for soln. (Campbell), p. 112.

Ectylurea, see Levanil tabs. (Upjohn), p. 52. Also in Nostyn tabs. (Ames).

Electrolyte mixture, see combn. in Ionosol B w/invert sugar (Abbott), p. 180.

Emecaine (Davis & Sly), combn. of ethyl aminobenzoate and $Al(OH)_3$ in 1:5 ratio, respectively. See combn. in Daptren tabs. (Davis & Sly). (Emecaine name and formula used under license from Irwin, Neisler & Co.)

Enzactin (Ayerst), see triacetin NND, p. 55.

Ephedrine HCl, see combn. in Quadrinal susp. (Knoll), p. 184.

Ephoxamine tabs. (Spencer), p. 110.

***l*-Epinephrine HCl,** see Glaucon soln. (Haug), p. 51.

Ergotamine tartrate, see Medihaler-ergotamine (Riker), p. 52.

Erythrocin-I.M. in Abboject disposable syringe (Abbott), p. 110.

Erythromycin ethyl succinate, see Erythrocin-I.M. (Abbott), p. 110; and combn. in Powdalator-ES unit (Abbott), p. 53.

Erythromycin propionate NND, p. 51.

Eskatrol Spansule caps. (SK&F), p. 51.

Ethaverine HCl, see combn. in Pertol tabs. (Ulmer), p. 182.

Ethinyl estradiol, see combns. in Analeptone-Anabolic tabs. (Reed & Carnrick), p. 48; in Basigets Ultima tabs. (Kendall), p. 176; in Ger-amino tabs. (Chicago), p. 51; in Gevitone tabs. (Crestmed), p. 51; in Nicozol complex liq. (Drug Specialties), p. 181; in Predictabs tabs. (Drug Specialties), p. 112.

Ethyl aminobenzoate, see combn. in Pyrojel w/tyrothricin emulsion (Bruce Parenterals), p. 113.

Ferrated ox bile, see combn. in Therabile tabs. (Ascher), p. 185.

Ferric citrate, soluble, see combn. in Thi-li-fer Forte inj. (Kirk), p. 185.

Ferrocholinate NND; Chel-Iron (Kinney), Ferrolip (Flint, Eaton); iron choline citrate chelate. An oral hematinic agent for treatment of iron deficiency anemias. The meager clinical evidence indicates ferrocholinate is better tolerated in the therapeutic dosage range than are ferrous sulfate and gluconate. *Dosage:* Adults and children over 6 yrs., 330–660 mg. t.i.d., supplying 120–240 mg. Fe per day. Infants and children under 6 yrs., maintenance dose is 104 mg. (12.5 mg. Fe) once daily, adjusted according to severity of the anemia. Pending more clinical evidence to support the usefulness of ferrocholinate the above dosage is tentative. Introduced 1958. See *J. Am. Med. Assn.*, **171,** 891 (Oct. 17, 1959).

Ferrolip (Flint, Eaton), see ferrocholinate NND, p. 178.

Ferrous fumarate NND; Firon (G. A. Beard); Fumiron (Standex); Hemoton (Carrtone); Toleron (Mallinckrodt); $FeC_4H_2O_4$. Limited data indicate that ferrous fumarate is probably as effective in iron deficiency anemia as other orally used ferrous compounds. It is well tolerated clinically, with occasional patients having the gastrointestinal disturbances typical of orally administered iron salts. As with all drugs of this class, it is contraindicated in the presence of peptic ulcer, regional enteritis, and ulcerative colitis. *Dosage:* Orally, 200 mg. (equiv. to 65 mg. Fe) 3–4 times daily. No data on children's dosage. Introduced 1957. See *J. Am. Med. Assn.*, **171,** 1104 (Oct. 24, 1959).

Ferrous gluconate, see combn. in Vita-12 fortified tabs. (Crystal), p. 186.

Ferrous sulfate, see combn. in Coferic tabs. (Crestmed), p. 50.

Fervenulin, clin., p. 51.

Firon (G.A. Beard), see ferrous fumarate NND, p. 178.

Fi-Test Kit (Hyland), p. 110.

Florinef-S ophth. soln. (Squibb), p. 51.

Fludrocortisone hemisuccinate, see combn. in Florinef-S ophth. soln. (Squibb), p. 51.

Fluorescein isothiocyanate, p. 51.

Fluothane (Ayerst), see halothane NND, p. 51.

Fluphenazine di-HCl, see Prolixin elix. (Squibb), p. 184; Prolixen tabs. (Squibb), p. 53.

Fortespan Spansule caps. (SK&F), p. 51.

Fostril and Fostril HC Lotions (Westwood) contain polyoxyethylene lauryl ether 6%, hexachlorophene 1%, sulfur (micro-powder) 2%, in flesh-tinted greaseless base. Fostril HC lot. also contains hydrocortisone 0.25%. Drying lotion for acne. w/HC for acne rosacea or where inflammation occurs. *Application:* Topically. To facial areas: once daily (bedtime) avoiding nasolabial folds and mouth area; extremely oily skin may require second daily application on individual lesions. To back, shoulders, chest: at least twice daily. Caution: If excessive drying and peeling of skin occur, stop applications for 3–5 days or limit to individual lesions. Skin becomes conditioned to initial chapping or irritation when applications are continued. Tubes of 1.5 oz. and 25 Gm. ℞.

Fructose, see Frutabs (Pfanstiehl), p. 51.

Frutabs (Pfanstiehl), p. 51.

Fumiron (Standex), see ferrous fumarate NND, p. 178.

Fungacetin (G.F. Harvey), see triacetin NND, p. 55.

Gastrografin (Squibb), see methylglucamine diatrizoate NND, p. 111.

Ger-amino tabs. (Chicago), p. 51.

Gericaine H_3 Injection (C.F. Kirk) contains 1% or 2% procaine HCl in buffered vehicle. For use in geriatric patients. *Dosage:* Test for allergic hypersensitivity first. Give slow i.m. injs. of 5 cc. of 2% soln. 3 times weekly for a series of 12 injs. followed by a 10-day rest period, then repeat the cycle as required. Results are usually expected during the 2nd cycle. Both strengths in 5-cc. amps. in boxes of 6 and 25. ℞.

Geriliquid (Lakeside). Per 5 cc.: niacin 75 mg., glycine 750 mg., in sherry wine vehicle. For cold hands and feet, pain and other conditions due to poor peripheral circulation. *Dosage:* 1–2 tsps. t.i.d. ℞.

Gevitone tabs. (Crestmed), p. 51.

Ginger oleoresin, see combn. in Therabile tabs. (Ascher), p. 185.

Glaucon soln. (Haug), p. 51.

Glutamic acid HCl, see combns. in Calsans tabs. (Podiatrex), p. 109; in Senilavite (D.E. Finley), p. 184.

Glyceryl guaiacolate, see combns. in Guaiahist TT tabs. (Columbus), p. 51; in Hasanone #2 syrup (Haskell), p. 178; in Nolamine expectorant syrup (G.W. Carnrick), p. 53; in Pedical pediatric liq. (Lemmon), p. 182; in Tussahist syrup (Finley), p. 186.

Glycine, see combn. in Geriliquid (Lakeside), p. 178.

Gramicidin, see combn. in Kenalog-S cream and oint. (Squibb), p. 180; in Phenyl-Drane nasal spray c suction (Mahon), p. 182.

Griseofulvin, p. 51.

Griseofulvin tabs. (Ayerst), see griseofulvin, p. 51.

Guaiahist TT tabs. (Columbus), p. 51.

Halothane NND, p. 51.

Harmonyl (Abbott), see combn. in Oreticyl tabs. (Abbott), p. 111.

Hasanone #2 Syrup (Haskell). Per 30 cc.: dihydrocodeinone bitartrate 10 mg., chlorpheniramine maleate 12 mg., *d*-isoephedrine HCl 75 mg., glyceryl guaiacolate 500 mg., sodium citrate 972 mg., citric acid 324 mg., chloroform 2 min., benzoic acid 0.1%, alcohol 5%, in syrupy vehicle. Antitussive-expectorant for coughs. *Dosage:* 1–2 tsps. 3–4 times daily; children (6–12) half dosage. Use cautiously in persons with hypertension, cardiorenal disease, or hyperthyroidism. Bottles of 4 oz. (doz. only), pts., gals. ℞. Exempt narcotic.

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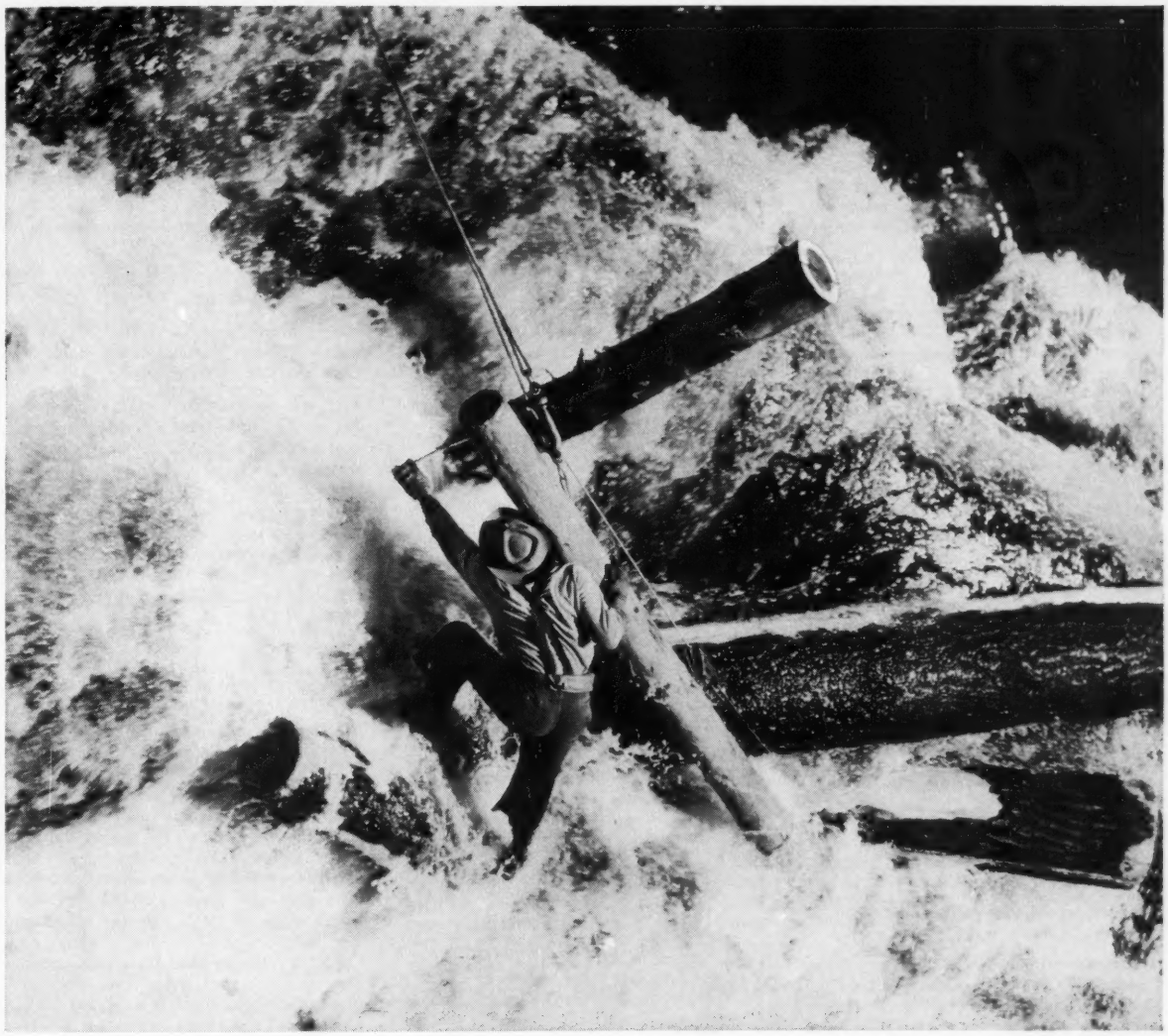

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Hemoton (Carrtone), see ferrous fumarate NND, p. 178.

Heparin potassium NND; Clarin (Leeming). This form of heparin administered sublingually frequently permits absorption of amounts that approximate the action of small doses of parenterally injected heparin sodium on the physicochemical state of blood lipids. However, there is as yet no convincing objective evidence that heparin, given sublingually, either prevents or ameliorates any manifestation of cardiovascular disease. Hence, the use of heparin potassium in the hope of ameliorating the progress of atherosclerosis must be considered experimental. In the sublingual dosage of 1500 I.U. (equiv. to about 12 mg. heparin sodium), heparin potassium has shown no demonstrable effect on clotting time and is believed to be relatively safe for use from the standpoint of possible adverse effects on blood coagulation. Introduced 1958. See *J. Am. Med. Assn.*, **171,** 1105 (Oct. 24, 1959).

Hexachlorophene, see combn. in Fostril and Fostril HC lots. (Westwood), p. 178; in pHisoac cream (Winthrop), p. 182.

Homatropine methylbromide, see combn. in Therabile tabs. (Ascher), p. 185.

Homvite Elixir (Carrtone). Per 15 cc.: vit. B_1 5 mg., B_6 5 mg., B_{12} 25 mcg., nicotinic acid 20 mg., L-lysine HCl 300 mg. in sherry wine base. In fatigue, edema, anemia and lowered resistance of aging patient. *Dosage:* 15 cc. before meals. If more than 30 cc. is taken at one time the nicotinic acid can cause transient flushing and sensation of heat on face, neck and extremeties. Pints and gals. ℞.

Honey-Cillin 400 for Susp. (Physicians), p. 110.

Humatin (Parke, Davis), clin., p. 51.

Hyburquin cream (Texas Pharmacal), p. 51.

Hydrochlorothiazide, see combn. in Oreticyl tabs. (Abbott), p. 111.

Hydrocortisone, see Texacort lot. (Texas Pharmacal), p. 185; see combns. in Cortar-quin (Dome), p. 50; in Fostril HC lot. (Westwood), p. 178; in Hyburquin cream (Texas Pharmacal), p. 51; in pantho-Foam (U.S. Vit. & Pharm.), p. 53; in Rhinalgan HC nasal spray (Doho), p. 184; in Synta and Synta w/Hydrocortisone oints. (Dumas-Wilson), p. 185.

Hydrocortisone-21-phosphate disodium salt, see combn. in Neo-Corphos ophth. soln. (Crookes-Barnes), p. 181.

Hydroxyzine HCl, p. 110. Also Atarax parenteral soln. (Roerig), p. 48; in dental practice, p. 52.

Hyoscine HBr, see combns. in Almezyme caps. (Meyer), p. 48; in Beldox caps. (Sanford), p. 176; in Doncarb tabs. (Crestmed), p. 51; in Tritranquil tabs. (Meyer), p. 55.

Hyoscyamine HBr, see combn. in Almezyme caps. (Meyer), p. 48.

Hyoscyamine sulfate, see combn. in Beldox caps. (Sanford), p. 176; in Doncarb tabs. (Crestmed), p. 51; in Sedamasal caps. (Finley), p. 184.

Ilosone Laury! Sulfate Sulfa for oral susp. (Lilly), p. 110.

Iodine reactions, p. 52.

Iodochlorhydroxyquin, see combn. in Hyburquin cream (Texas Pharmacal), p. 51.

Imipramine HCl, see Tofranil tabs. (Geigy), p. 185.

Invert sugar, see combn. in Ionosol B w/invert sugar (Abbott), p. 180.

Ionosol B w/invert sugar 10% Inj. (Abbott). Per 100 cc.: invert sugar 10 Gm., NaCl 180 mg., KCl 100 mg., sodium lactate (anhyd.) 280 mg., $MgCl_2$ 25 mg., K_2HPO_4 100 mg., NaH_2PO_4 14 mg. For patients requiring polyionic i.v. fluid replacement, alkalosis due to vomiting, diabetic acidosis, and fluid losses due to burns or stress and postoperative dehydration. *Dosage:* I.v. infusion at a rate not to exceed 500 cc./hr. Bottles of 250, 500, and 1000 cc. ℞.

Iron choline citrate chelate, see ferrocholinate NND, p. 178.

Iron Gluconate, see combn. in Belfer tabs. (Durst), p. 49.

***d*-Isoephedrine HCl,** see combn. in Hasanone #2 syrup (Haskell), p. 178.

Isopropamide iodide, see Ornade Spansule caps. (SK&F), p. 181.

Isoproterenol, see combn. in Asophyllin tabs. (Crystal), p. 176.

Isordil tabs. (Ives-Cameron), p. 52.

Isosorbide dinitrate, see Isordil tabs. (Ives-Cameron), p. 52.

Kenalog Parenteral Suspension (Squibb). Per cc.: triamcinolone acetonide 10 mg. For intra-articular, intrasynovial, or intrabursal inj. in painful and inflamed joints. *Dosage:* Related to size of joint and condition; 2.5–5 mg. for smaller and 5–15 mg. for larger joints; single injs. into several joints, up to a total of 20 mg. have been given. Contraindicated if infection is near or in joints. 5-cc. vials. ℞.

Kenalog-S Cream and Ointment (Squibb). Per Gm. of each: triamcinolone acetonide 1 mg., neomycin base 2.5 mg., gramicidin 0.25 mg. For dermatological conditions threatened or complicated by bacterial superinfection. *Application:* Topically to affected area 2–3 times daily. Both in 5-Gm. and 15-Gm. tubes. ℞.

Kenalog Spray (Squibb) contains triamcinolone acetonide 3.3 mg. and 10 mg. in aerosol containers of 50 Gm. and 150 Gm., respectively. For dermatological conditions responsive to corticosteroids. *Application:* Spray affected area 3–4 times daily. A 3-second spray from 3–6 in. delivers about 0.1 mg. of drug over an area the size of a hand. Caution: Cover the eyes when spraying on or near face. 50-Gm. and 150-Gm. containers. ℞.

K-Plex syrup (Walker), p. 52.

Krebiozen, p. 52.

Lactobacillus acidophilus, see combn. in Bacid caps. (U.S. Vit. & Pharm.), p. 176.

Lavabo tabs. (Superior), p. 110.

Levanil tabs. (Upjohn), p. 52.

Lidocaine, see combn. in Velacycline i.m. inj. (Squibb), p. 186.

Lipomul I.V. (Upjohn), see cottonseed oil emulsion NND, p. 50.

Liqui-cee (US Standard). Per 5 cc. aqueous liq. (lemon): ascorbic acid 1 Gm. in buffered vehicle. For high vit. C therapy. *Dosage:* 2.5 cc. Bottles of 4-oz. ℞.

Liver, desiccated, see combn. in Mucoplex tabs. (Stuart), p. 181.

Liver inj., see combn. in Thi-li-fer Forte inj. (Kirk), p. 185.

Loupred tabs. (Louisons), p. 110.

L-Lysine HCl, see combn. in Ger-amino tabs. (Chicago), p. 51.

Madribon Tablets (Roche), 0.5 Gm., now also in bottles of 100.

Magnesium ascorbate, oxide, aminobenzoate, and gluconate, see combn. in Cardenz tabs. (Miller), p. 176.

Malglyn Compound Magma (Brayten). Per tsp.: dihydroxyaluminum aminoacetate 0.5 Gm., belladonna alkaloids (as sulfates) 0.162 mg., phenobarbital sodium 16.2 mg., alcohol 1%. For treatment of refractory peptic ulcer patients who do not respond to antacid-bland diet regimen and in which hypermotility and undue nervousness are both present. *Dosage:* 1–2 tsps. 1–2 hrs. after meals and upon retiring. Bottles of 8 oz. ℞.

Mannomustine in leukemias, polycythemia and malignant disorders, p. 52.

Maxipen (Pfizer), clin., p. 52.

Medihaler-Ergotamine (Riker), p. 52.

Medroxyprogesterone acetate, see Provera tabs. (Upjohn), p. 184.

Mepenzolate methylbromide NND; Cantil (Lakeside); 1-methyl-3-piperidyl benzilate CH_3Br. An anticholinergic used chiefly for relief of spasm and hypermotility associated with diseases of the lower gastrointestinal tract; but evidence concerning its effect on the colon is conflicting. Useful in relieving abdominal pain, gaseous distention, and diarrhea associated with diseases of the colon, it is more effective in functional conditions such as irritable bowel or spastic colon. Side-effects that have been observed include dryness of the mouth, blurred vision, dizziness, headache, and constipation. These may frequently be satisfactorily controlled by reducing the dosage. Difficulty of urination and urinary retention in the presence of prostatic hypertrophy are claimed to occur less frequently with mepenzolate CH_3Br than with other anticholinergic drugs; these complications have, nevertheless, been reported. Mepenzolate is contraindicated in the presence of glaucoma, pyloric obstruction, and cardiospasm. It should be used with great caution in the presence of prostatic hypertrophy. *Dosage:* Mepenzolate CH_3Br is administered orally. The optimal dosage should be carefully determined for each individual patient. Introduced 1956. See *J. Am. Med. Assn.*, **171,** 891 (Oct. 17, 1959).

Mephenesin, see combn. in Amril tabs. (Amfre-Grant), p. 174; in Tritranquil tabs. (Meyer), p. 55.

Mephobarbital, see combn. in Tritranquil tabs. (Meyer), p. 55.

Meprospan - 400 Capsules (Wallace). Per continuous release, blue-topped cap.: 400 mg. meprobamate (Miltown). Meprospan-200 caps. (yellow-topped) also available. *Dosage:* 400-mg. every 12 hrs. Bottles of 30. ℞

Meprobamate, see Meprospan-400 caps. (Wallace), p. 181; see combns, in Appetrol tabs. (Wallace), p. 48; in Bamadex tabs. (Lederle), p. 49.

Methamphetamine HCl, see combns. in Obestrol caps. (Crestmed), p. 53; in Pancidin Forte Panseals (Pan American), p. 112.

Methenamine undecylenate, clin., p. 52.

Methionine, see Amurex caps. (Reid), p. 174; Dyprin caps. (Lincoln), p. 110; see combns. in Ger-amino tabs. (Chicago), p. 51; in Therabile tabs. (Ascher), p. 185.

Methylandrostenediol, see combns. in Basigets Ultima tabs. (Kendall), p. 176; in Ger-amino tabs. (Chicago), p. 51.

Methylglucamine diatrizoate NND, p. 111.

Methyltestosterone, see combns. in Analeptone-Anabolic tabs. (Reed & Carnrick), p. 48; in Gevitone tabs. (Crestmed), p. 51; in Nicozol complex liq. (Drug Specialties), p. 181

Metracal (Mead Johnson), p. 111.

Milton antiseptic soln. (Walker), p. 111.

Miltown, see combn. in Appetrol tabs. (Wallace), p. 48.

Min-io-phen tabs. (Paul Maney), p. 111.

Modumate Injection (Abbott), 25% soln. of arginine glutamate, provides per 100 cc.: L-arginine 13.5 Gm. and L-glutamic acid 12 Gm. (including 0.5 Gm. excess glutamic acid). Combines the ammonia-eliminating properties of both arginine HCl and sodium glutamate with minimum effect on acid-base balance. For treatment of ammonia intoxication due to hepatic failure. Not for hepatic disorders in which blood levels of ammonia are relatively normal. *Dosage:* Dilute 100 cc. with 500 or 1000 cc. of 5% or 10% dextrose and administer by i.v. infusion during not less than 1 hr. for 25 Gm. of Modumate and not less than 2 hrs. for 50 Gm.; repeat after 8 hrs. if ammonia levels are still raised or if coma persists. Severe cases may require repeated dosage for 3–5 days. Fluid and electrolyte balances should be checked. 100-cc. containers. ℞.

Modutrol tabs. (Reed & Carnrick), p. 53.

Monosyl tabs. (Arcum), p. 111.

Mucoplex Tablets (Stuart). Per tab.: desiccated liver 750 mg., vit. B_{12} 5 mcg., B_2 1.5 mg., folic acid 0.5 mg. Nutritional therapy for abnormalities of oral mucous membranes. *Dosage:* 1–2 tabs. t.i.d. preferably with meals. Bottles of 100. O-t-c.

Murel-S.A. and **Murel w/phenobarbital-S.A.** (Ayerst), p. 111.

Mylase-100 (Wallerstein), see combns. in Almezyme caps. (Meyer), p. 48; in Almezyme liq. (Meyer), p. 174.

Mysteclin-F for Aqueous Drops and for Syrup (Squibb). When reconstituted with 35 cc. water to 60 cc. each 5 cc. syr. contains potassium metaphosphate-potentiated tetracycline equiv. to tetracycline HCl 125 mg. and amphotericin B 25 mg. When reconstituted with 6.5 cc. water to 10 cc. each cc. drops contains 100 mg. and 20 mg., respectively, of the 2 ingredients. For treatment of mixed infections. *Dosage:* Minimum of 250 mg. tetracycline HCl 4 times daily; children, 10–20 mg. tetracycline HCl per lb. of body weight daily, in divided doses. "Drops," 10-cc. bottle w/dropper; "syrup," 60-cc. bottle. ℞.

Naturetin tabs. (Squibb), p. 111.

Naturetin w/K Tablets (Squibb). Per tab.: benzydroflumethiazide 5 mg., potassium chloride 500 mg. Indications and dosage same as for Naturetin tabs. (Squibb), see p. 111, but w/K provides potassium during prolonged therapy or when patient is prone to hypokalemia or other electrolyte disturbances. Bottles of 100. ℞.

Neo-Aristoderm Foam (Lederle). Per 15-cc. pressure bottle: triamcinolone acetonide 15 mg., neomycin sulfate 75 mg., methylparaben 24 mg. and propylparaben 6 mg. Topical aid in treatment of atopic, eczematous, contact, seborrheic, neuro, and eczematized mycotic dermatoses; in nummular eczema, pruritis vulvae and ani,

generalized erythrodermia, external otitis, and eczematized psoriasis. *Application:* Topically, sparingly on affected areas 3–4 times daily. 15-cc. pressurized bottles. ℞.

Neo-Corphos Ophth. Soln. (Crookes-Barnes). Per cc.: hydrocortisone-21-phosphate 5 mg. (as disodium salt), neomycin 3.5 mg. (as sulfate). For rapid control of ophthalmic inflammation complicated by infection. Contraindicated in tuberculous or fungal infections of the eye and in herpes simplex. *Dosage:* 1–2 drops in conjunctival sac every 2 hrs. during day until favorable response, then reduce dosage. 5-cc. dropper bottles. ℞.

Neomycin, see combn. in Kenalog-S cream and oint. (Squibb), p. 180.

Neomycin citrate, see combn. in Cyclobar ophth. gel (Schieffelin), p. 50.

Neomycin sulfate, see combns, in Neo-Aristoderm foam (Lederle), p. 181; in Neo-Corphos ophth. soln. (Crookes-Barnes), p. 181; in Phenyl-Drane nasal spray c̄ suction (Mahon), p. 182; in smallpox vaccine, avianized (Lederle), p. 54; in Surgamycin spray oint. (Am. Cyanamid), p. 55.

Neutrapen (SchenLabs), see Penicillinase NND, p. 182.

Niacin, see combn. in Geriliquid (Lakeside), p. 178.

Niatherm tabs. (Podiatrex), p. 111.

Nicotinic acid, see combns. in Nicozol complex liq. (Drug Specialties), p. 181; in Pentorock tabs. (Crystal), p. 182; in Zolger tabs. (Superior), p. 186.

Nicotinyl alcohol, see beta-pyridyl carbinol, p. 176.

Nicozol Complex Liq. (Drug Specialties). Per 15 cc.: pentylenetetrazol 150 mg., nicotinic acid 75 mg., methyltestosterone 2.5 mg., ethinyl estradiol 0.02 mg., vit. B_1 6 mg., B_2 3 mg., B_6 6 mg., B_{12} 2 mcg., E 3 mg., folic acid 0.33 mg., panthenol 5 mg., choline bitartrate 20 mg., inositol 15 mg., L-lysine HCl 100 mg., Fe 15 mg., I 0.05 mg., Mg 2 mg., Mn 1 mg., Co 0.1 mg., Zn 1 mg., alcohol 15%. Geriatric dietary supplement and tonic. Contraindicated in carcinoma of breast, prostate, or genital tract. *Dosage:* 5 cc. t.i.d. before meals. Females should follow each 21-day course with a 7-day rest period. Caution: Reduce dosage if evidence of masculinization in female, or feminization in male, or uterine bleeding occur. May cause flushing due to nicotinic acid. Pts. and gals. ℞.

NIH 7519, see Prinadol inj. (SK&F), p. 113.

Nitromersol, see Butyn Metaphen dental oint. (Abbott), p. 49.

Nolamine expectorant syr. (G.W. Carnrick), p. 49.

Normacap tabs. (Podiatrex), p. 112.

Noscaphen wafers (Bruce Parenterals), p. 111.

Noscapine, see combn. in Noscaphen wafers (Bruce Parenterals), p. 111.

Novahistine Singlet tabs. (Pitman-Moore), p. 111.

Obestrol caps. (Crestmed), p. 53.

Obron improved caps. (Roerig), p. 111.

Oretic (Abbott), see combn. in Oreticyl tabs. (Abbott), p. 111.

Oreticyl 25, 50, and Forte tabs. (Abbott), p. 111.

Ornade Spansule Capsules (SK&F). Per sustained-action cap.: isopropamide (as iodide) 2.5 mg. (drying agent), phenylpropanolamine HCl 50 mg. (decongestant), chlorpheniramine maleate 8 mg. For symptomatic relief of nasal congestion in colds and allergies. *Dosage:* 1 cap. every 12 hrs. Not recommended for children under 6. Bottles of 30. ℞.

Ostensin tabs. (Wyeth), p. 53

Palfium, p. 112.

Pancidin Forte Panseals (Pan American), p. 112.

Pancidin tabs. (Pan American), p. 112.

Pancreatin, see combn. in Therabile tabs. (Ascher), p. 185.

Panrexin TP Panseals (Pan American), p. 112.

pantho-Foam Aerosol (U.S. Vit. & Pharm.), p. 53.

Panthoject Solution (U.S. Vit. & Pharm.) for i.m. inj. has revised formula to contain per cc.: 250 mg. pantothenic acid as sodium salt (was calcium salt). 1-cc. amps. in boxes of 25 and 100; 10-cc. multiple-dose vials in boxes of 6. See p. 53.

Pantothenylol, see combn. in pantho-Foam (U.S. Vit. & Pharm.), p. 53.

Pectinates, citrus, see combn. in Normacap tabs. (Podiatrex), p. 111.

Pedicol Pediatric Liquid (Lemmon). Per 5 cc.: dextromethorphan HBr 7.5 mg., glyceryl guaiacolate 25 mg., ammonium chloride 50 mg., sodium citrate 50 mg. For coughs in colds, influenza, bronchitis, laryngitis, and asthma in infants and children. *Dosage:* 1–4 times daily; children 2–4 yrs., ½ tsp.; 4–12 yrs., 1 tsp.; over 12 yrs., 2 tsps. Bottles of 3 oz. and pts. O-t-c.

Pedisal Pediatric Suspension (Lemmon). Per 5 cc. flavored pink susp.: salicylamide 65 mg., chlorpheniramine maleate 0.75 mg. For treatment of fever, simple headache, minor aches and pains, teething, postinoculation reactions, colds, and pruritic conditions. *Dosage:* Every 4 hrs.: children 6 months and under, 0.5 cc. (9 drops); 6–12 months, 1 cc.; 1–3 yrs., 2.5 cc.; over 3 yrs., 5 cc. Plastic drop bottles of 1 oz. ℞.

Penicillin G, see Pentids 400 for syrup (Squibb), p. 53, combn. in Strep-Dicrystin inj. (Squibb), p. 54.

Penicillin G potassium, see Honey-Cillin 400 for susp. (Physicians), p. 110.

Penicillin V potassium, see Pen-Vee K liquid (Wyeth), p. 112.

Penicillinase NND: Neutrapen (Schen-Labs); a specially purified enzyme preparation obtained by fermentation from cultures of a strain of *Bacillus cereus.* A unit of penicillinase is defined as that amount which, *in vitro,* inactivates 1 unit of penicillin per minute at 25 °C. at pH 7. The enzyme catalyzes the hydrolysis of the β-lactam ring of penicillin, forming penicilloic acid which is biologically and, presumably, antigenically inactive. Penicillinase may be used for the treatment of slowly developing or delayed penicillin reactions. Adjunctive use of more rapidly acting drugs such as epinephrine, to control anaphylactic reactions, may prove necessary or advisable. Symptoms of some reactions to penicillinase inj. have suggested an acute anaphylactoid response. Less serious reactions include pain at site of inj., weakness, malaise, a morbilliform rash, and a mild self-limited febrile reaction. *Dosage:* Deep i.m. inj. of 2 cc. of freshly prepared soln. containing 400,000 u./cc. Dose may be repeated at intervals of 3–7 days if necessary. Two injs. are usually sufficient to afford permanent relief from the symptoms of a single reaction. Introduced 1958. See *J. Am. Med. Assn.*, **171,** 1105 (Oct. 24, 1959).

Pentaerythritol tetranitrate, see combn. in Pertol tabs. (Ulmer), p. 182.

Pentids 400 for syrup (Squibb), p. 53.

Pentobarbital Sodium as gastrointestinal antispasmodic, p. 53.

Pentorock Tablets (Crystal). Per tab.: pentylenetetrazol 100 mg., nicotinic acid 50 mg., dyphylline 100 mg. For aged patients with mental confusion, chronic anorexia, arteriosclerosis, fatigue, and insomnia, in which there may be impaired cardiovascular conditions. *Dosage:* 1 tab. t.i.d. Bottles of 100 and 1000. ℞.

Pentritol Tempules (Armour), sustained-action caps. of pentaerythritol tetranitrate, are now marketed by Armour Pharm. Co., formerly the property of Evron Co.

Pentylenetetrazol, see combns. in Analeptone-Anabolic tabs. (Reed & Carnrick), p. 48; in Gevitone tabs. (Crestmed), p. 51; in Nicozol complex liq. (Drug Specialties), p. 181; in Pentorock tabs. (Crystal), p. 182; in Zolger tabs. (Superior), p. 114.

Pen-Vee K liq. (Wyeth); new strength, p. 112.

Perphenazine, see Trilafon suppos. (Schering), p. 55.

Pertol Tablets (Ulmer). Per tab.: pentaerythritol tetranitrate 10 mg., ethaverine HCl 30 mg. For cardiospasm, general vasodilation, prophylaxis against anginal attacks and cerebrovascular accidents. Minor gastric irritation may occur. Use with utmost caution in patients with glaucoma. Bottles of 100. ℞.

Pharycidin concentrate (Purdue Frederick), p. 53.

Phenacetin, see combns. in Pancidin tabs. and Pancidin Forte Panseals (Pan American), p. 112; in Sedamasal caps. (Finley), p. 182.

Phenazocine, see Prinadol inj. (SK&F), p. 113.

Phenindamine tartrate, see combn. in Carrhist elixir (Carrtone), p. 49; in Nolamine expectorant syrup (G.W. Carnrick), p. 53.

Phenistix test for *p*-aminosalicyclic acid. p. 112.

Phenobarbital, see combns. in Asophyllin tabs. (Crystal), p. 176; in Barcole tabs. (Haag), p. 51; in Beldox caps. (Sanford), p. 176; in Doncarb tabs. (Crestmed), p. 57; in Min-io-phen tabs. (Paul Maney), p. 111; in Murel-S.A. and Murel w/phenobarbital-S.A. (Ayerst), p. 111; in Obestrol caps. (Crestmed), p. 53; in Quadrinal susp. (Knoll), p. 184.

Phenobarbital sodium, see combn. in Malglyn compound magma (Brayten), p. 180.

Phenylazodiaminopyridine HCl, see combn. in Azo Kynex tabs. (Lederle), p. 49.

Phenyl-Drane Nasal Spray c Suction (Mahon). Contains phenylephrine HCl 0.5%, gramicidin 0.005%, neomycin sulfate 0.1%, benzalkonium chloride 1:5000 in isotonic aqueous soln., pH 6.2. For sinus and nasal congestion in rhinitis, allergy, sinusitis, and nasopharyngitis; by shrinkage of tissue and drainage with suction (negative pressure 60 mm. Hg). *Application:* Insert unplugged nosepiece tightly into one nostril and squeeze sides of bottle together; hold while other nostril is closed with finger and swallow; hold swallow while slowly releasing pressure on bottle; remove nosepiece then open mouth and gently blow nose into handkerchief. Repeat 4 times alternately in each nostril every 3 hrs. Children over 3 yrs., 3 squeezes per nostril alternately 4 times daily. Four squeezes deliver approximately 0.3 cc. If ears plug take 2 sips of water. 30-cc. plastic spray bottle. ℞.

Phenylephrine, see combn. in Prednefrin forte ophth. susp. (Allergan), p. 112.

Phenylephrine HCl, see combns. in Carrhist elixir (Carrtone), p. 49; in Covan tabs. (VanPelt & Brown), p. 50; in Di-cold tabs. (Haug), p. 50; in Guaiahist TT tabs. (Columbus), p. 51; in Novahistine Singlet tabs., (Pitman-Moore), p. 111; in Pancidin tabs. (Pan American), p. 112; in Phenyl-Drane nasal spray c suction (Mahon), p. 182; in Synex and Synex-SA caps. (Phila. Ampoule), p. 114; in Thorphan and Thorphan, Jr., syrups (Bryant), p. 114; in Tristacomp liq. and tabs. (Physicians), p. 114.

***o*-Phenylphenol,** see combn. in pHisoac cream (Winthrop), p. 182.

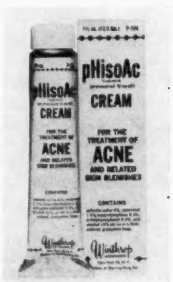
Phenylpropanolamine HCl, see Ornade Spansule caps. (SK&F), p. 181; see combns. in Covan tabs. (VanPelt & Brown), p. 50; in Nolamine expectorant syrup (G.W. Carnrick), p. 53; in Synex and Synex-SA caps. (Phila. Ampoule), p. 114; in Tristacomp liq. and tabs. (Physicians), p. 114; in Tussahist syr. (Finley), p. 186; in Ursinus tabs. (Smith-Dorsey), p. 114.

Phenylpropanolamine HCl;—w/neomycin sulfate;—w/phenylephrine HCl; see Aerocaps caps. for C.M.C. insufflator (Consol. Midland), p. 174.

Phenyltoloxamine dihydrogen citrate, see combn. in Ephoxamine tabs. (Spencer), p. 110.

Phenyramidol HCl, see Analexin and Analexin-AF tabs. (Irwin, Neisler), p. 108.

pHisoac Cream (Winthrop) contains colloidal sulfur 6%, resorcinol 1.5%, hexachlorophene 0.3%, *o*-phenylphenol 0.3%, alcohol 10%, in a flesh-colored vehicle. For treatment of acne. Applied topically overnight and, for very oily skin, also during the day. 1.5-oz. tubes. O-t-c.



Phospholine iodide for soln. (Campbell), p. 112.

Podiplex caps. (Podiatrex), p. 112.

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N-540	Neo-Synephrine Solution Arom.	0.25%	1 oz.	.60	.48	.50	.52	.55	.90
N-550	Neo-Synephrine Solution	1%	1 oz.	.82	.66	.68	.70	.75	1.22
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Polyglucose gum, modified, see combns. in Benulax and Benulone susps. (Merrell), p. 176.

Polymyxin B sulfate, see combn. in smallpox vaccine, avianized (Lederle), p. 54.

Polyoxyethylene lauryl ether, see combn. in Fostril and Fostril HC lots. (Westwood), p. 178.

Posterior pituitary, see Aerocaps caps. for C.M.C. insufflator (Consol. Midland), p. 174.

Potassium alpha-phenoxyethyl pencillin, see Syncillin (Bristol), p. 55.

Potassium chloride, see combn. in Naturetin w/K tabs. (Squibb), p. 181.

Potassium guaiacolsulfonate, see combn. in Thorphan Jr. syrup (Bryant), p. 185.

Potassium iodide, see combns. in Min-iophen tabs. (Paul Maney), p. 111; in Quadrinal susp. (Knoll), p. 184.

Potassium penicillin-152, see Syncillin (Bristol), p. 55.

Potassium penicillin G, see Strep-Combiotic (Pfizer) for susp., p. 185.

Potassium penicillin V, see combn. in Compocillin-VK w/sulfas for oral susp. (Abbott), p. 109.

Potassium salts, see combn. in K-Plex syrup (Walker), p. 52.

Powdalator-ES Unit (Abbott), p. 53.

Predictabs tabs. (Drug Specialties), p. 112.

Prednefrin Forte ophth. susp. (Allergan), p. 112.

Prednisolone, see combn. in Dermagel w/prednisolone cream (Bruce Parenterals), p. 109.

Prednisolone acetate, see combn. in Prednefrin forte ophth. susp. (Allergan), p. 112.

Prednisolone acetate Injection (Phila. Ampoule). 25 mg./cc. aqueous inj. For arthritic and collagen diseases responsive to corticosteroid therapy. *Dosage:* Initial, 0.8–1.2 cc. daily according to severity of condition. 5-cc. vials. ℞.

Prednisolone phosphate sodium NND; Hydeltrasol (Merck S&D), p. 112.

Prednisone, see combn. in Loupred tabs. (Louisons), p. 110.

Preludin Endurets (Geigy). Per tab.: 75 mg. phenmetrazine HCl. Now also in bottles of 1000. See This Journal, **20,** 288 (May 1959).

Preludin Tablets (Geigy). Per tab.: 25 mg. phenmetrazine HCl. Now also in bottles of 500.

Prinadol injection (SK&F), p. 113.

Procaine HCl, see Gericaine H_3 inj. (C.F Kirk), p. 178.

Procaine penicillin, see Aerocaps caps. for C.M.C. insufflator (Consol. Midland), p. 174; see combn. in Strep-Dicrystin inj. (Squibb), p. 54.

Procaine pencillin G, see Strep-Combiotic (Pfizer), p. 185.

Prochlorperazine, see combn. in Eskatrol Spansule caps. (SK&F), p. 51.

Prolase-300 (Wallerstein), see combn. in Almezyme caps. (Meyer), p. 48; in Almezyme liq. (Meyer), p. 174.

Prolixin tabs. (Squibb), p. 53.

Prolixin Elixir (Squibb). Liquid contains the tranquilizer fluphenazine di-HCl also available in tablets. See Prolixin tablets (Squibb) p. 53 for details. Single daily dose for elix. Bottles of 60 cc. (with dropper) and pts. ℞.

Propionic acid, see Verdefam cream (Texas Pharmacal), p. 55.

Propionyl erythromycin ester lauryl sulfate, see combn. in Ilosone lauryl sulfate sulfa for oral susp. (Lilly), p. 110.

Provera Tablets (Upjohn) are now available nationwide. Details on this drug in tablets containing 2.5 mg. or 10 mg. medroxyprogesterone acetate appeared in This Journal, **20,** 552 (Sept. 1959).

Pyrilamine Longcaps (G & C Pharmacal), p. 54.

Pyrilamine maleate, see combns. in Carrhist elixir (Carrtone), p. 49; in Covan tabs. (VanPelt & Brown), p. 50; in Noscaphen wafers (Bruce Parenterals), p. 111; in Rhinalgan HC nasal spray (Doho), p. 184; in Synex and Synex-SA caps. (Phila. Ampoule), p. 114; in Tristacomp liq. and tabs. (Physicians), p. 114; in Tussahist syr. (Finley), p. 186; in Ursinus tabs. (Smith-Dorsey), p. 186.

Pyrojel w/tyrothricin emulsion (Bruce Parenterals), p. 113.

N-(Pyrrolidinomethyl) tetracycline, see combns. in Velacycline injs. (Squibb), p. 186.

Quadrinal Suspension (Knoll). Per 5 cc. (fruit): ephedrine HCl 12 mg., phenobarbital 12 mg., theophylline calcium salicylate 65 mg., potassium iodide 160 mg. (equiv. to ½ tab.). For symptomatic treatment of chronic respiratory diseases associated with wheezing and bronchospasm. *Dosage:* 2 tsps. t.i.d.; children (6–12) 1 tsp. t.i.d.; under 6, adjust to age and weight. Pints. ℞.

Quelicin chloride inj. (Abbott), p. 54.

Quinine oxidase in serum, p. 54.

Racephedrine HCl, see combn. in Asophyllin tabs. (Crystal), p. 176; in Ephoxamine tabs. (Spencer), p. 110.

Radio-L-triiodothyronine (**I-131**) (Abbott), p. 113.

Rapadyne Tablets (Knoll). Per tab.: dihydrocodeinone bitartrate 20 mg., aspirin 200 mg., phenacetin 150 mg., caffeine 30 mg. For relief of all degrees of severity of pain up to that which requires dihydromorphinone or morphine. *Dosage:* 1 tab. every 4 hrs. Bottles of 24 and 100, Narcotic. ℞ (oral permitted).

Rela tabs. (Schering), p. 113.

Relaxin NND, p. 54.

Releasin (Warner-Chilcott), see relaxin NND, p. 54.

Renografin (Squibb), see methylglucamine diatrizoate NND, p. 111.

Reserpine, see combn, in Amril tabs. (Amfre-Grant), p. 174.

Resorcinol, see combn. in pHisoac cream (Winthrop), p. 182.

Resprogen vaccine (Parke, Davis), p. 54.

Rhinalgan HC Nasal Spray (Doho). Soln. contains hydrocortisone alcohol (solubilized) 0.02%, *dl*-desoxyephedrine HCl 0.22%, pyrilamine maleate 0.01%, antipyrine 0.28%, with gentian violet (nonstaining concn. 0.002%) in hydro-glycerol vehicle. For congestion and edema of nasal mucous membrane due to colds and allergic rhinitis. *Dosage:* Spray once in each nostril and inhale simultaneously, gently blow out secretions then respray twice in each nostril; repeat after 3–6 hrs. Children and infants, spray once in each nostril, repeat during first hr. if indicated; repeat after 3–6 hrs. Dohony Spray-O-Mizer, 1-oz. plastic bottle; pt. bottles for physician's and hospital use. ℞.

Rifomycin, clin., p. 54.

Roniacol Timespan Tablets (Roche). Per long acting tab.: 150 mg. beta-pyridyl carbinol (nicotinyl alcohol). Vasodilator in vascular diseases. *Dosage:* 1 tab. once or twice daily. Bottles of 50. ℞.

Salicylamide, see combns. in Loupred tabs. (Louisons), p. 110; in Noscaphen wafers (Bruce Parenterals), p. 111; in Pancidin tabs. and Pancidin Forte Panseals (Pan American), p. 112; in Pedisal pediatric susp. (Lemmon), p. 182; in Sedamasal caps. (Finley), p. 184.

Salicylic acid, see Verdefam cream (Texas Pharmacal), p. 55.

Salicylic acid combinations with zinc oxide in ointments and pastes appear to be useless if excess zinc oxide is present. E. Young and G. Weiffenbach in *Dermatologica*, **118,** 74 (1959) state: when the 2 substances are mixed in a base, zinc salicylate, with the same properties as zinc oxide, is formed. In Lassar's paste the excess zinc oxide causes immediate conversion so that even the freshly prepared paste contains no free salicylic acid. *Mod. Med.*, **28,** 151 (Jan. 1, 1960).

Schultz-Dale anaphylactic test for carcinoma antigen, p. 54.

Scopolamine HBr, see combn. in Daptren tabs. (Davis & Sly), p. 177.

Secobarbital sodium, see combn. in Monosyl tabs. (Arcum), p. 111.

Sedamasal Capsules (D.E. Finley). Per black and green cap.: amobarbital 15 mg., salicylamide 200 mg., phenacetin 120 mg., *d*-amphetamine sulfate 2 mg., hyoscyamine sulfate 0.05 mg. For relief of pain, tension headache, dysmenorrhea, sinusitis, and certain cases of migraine. *Dosage:* 1 cap. every 3–4 hrs. Bottles of 100. ℞.

Senilavite Capsules (D.E. Finley). Per orange and white cap.: vit. A palmitate 5000 u., C 100 mg., B_1 (nitrate) 2.5 mg., B_2 2 mg., B_6 1 mg., B_{12} (w/IF conc.) 0.133 u., nicotinamide 10 mg., calcium pantothenate 5 mg., iron (ferrous fumarate) 15 mg., glutamic acid HCl 150 mg., dioctyl sodium sulfosuccinate 50 mg. Dietary supplement for older patients. *Dosage:* Prophylaxis, 1 cap. t.i.d. with meals; therapeutic 2 caps. t.i.d. with meals. Bottles of 100. O-t-c.

Smallpox vaccine, avianized (Lederle), p. 54.

Sodium carboxymethylcellulose, see combn. in Bacid caps. (U.S. Vit. & Pharm.), p. 176.

Sodium caprylate, see Verdefam cream (Texas Pharmacal), p. 55.

Sodium citrate, see combn. in Pedical pediatric liq. (Lemmon), p. 182.

Sodium colistin methanesulfonate, p. 54.

Sodium hypochlorite, see Milton antiseptic soln. (Walker), p. 110.

Sodium lauryl sulfate, see combns. in Benulax susp. (Merrell), p. 176; in Benulone susp. (Merrell), p. 176.

Sodium pantothenate, see Panthoject soln. (U.S. Vit. & Pharm.), p. 182.

Sodium propionate, see Verdefam cream (Texas Pharmacal), p. 55.

Sodium thiosulfate, see combn. in Dermagel w/prednisolone cream (Bruce Parenterals), p. 109.

Soma caps. (Wallace), p. 54.

Sorbitol, see combn. in smallpox vaccine, avianized (Lederle), p. 54.

Spectrocin (Squibb), see combn. in Florinef-S ophth. soln. (Squibb), p. 51.

Spironolactone, see Aldactone (Searle), p. 48; Aldactone tabs. (Searle), p. 108.

Sporostacin cream (Ortho), p. 113.

Stabil-A Plus Capsules (Dumas-Wilson). Per cap.: vit. A acetate 20,000 u., C 50 mg., B_2 4 mg., B_{12} 2 mcg., noninhibitory intrinsic factor $^1/_{15}$ u., niacin 18 mg. For dermatologic symptoms of avitaminosis A and peripheral vascular disease characterized by excessive carboxyhemoglobin. *Dosage:* 1 cap. t.i.d. O-t-c.

Staphage-Lysate soln. (Bruce Parenterals), p. 113.

Steroids, p. 54.

Strep-Combiotic (Pfizer). As powder for susp.: procaine penicillin G and potassium penicillin G with 0.5 Gm. or 1 Gm. streptomycin sulfate per dose of prepared susp. As premixed aqueous susp.: procaine penicillin G 400,000 u. with 0.5 Gm. streptomycin sulfate plus procaine HCl (butylparaben and sodium formaldehyde sulfoxylate, preservatives) per 2 cc. This reformulation of Combiotic (Pfizer), replacing dihydrostreptomycin with streptomycin, is said to be free of some side effects of the older product. For infections due to susceptible pathogens. Use cautiously in patients with renal insufficiency. *Dosage:* Based on streptomycin content, 0.5 Gm. by i.m. inj. once or twice daily depending upon nature and severity of infection. Powder for susp. in 1-dose and 5-dose vials; premixed susp. in 5-dose vials. ℞.

Strep-Dicrystin inj. (Squibb), p. 54.

Streptomycin sulfate, see Strep-Combiotic (Pfizer), p. 185; combn. in Strep-Dicrystin inj. (Squibb), p. 54.

Streptonigrin, clin., p. 54.

Streptovitacins A, B, C_2 and D, clin., p. 55.

Streptozotocin, p. 55.

Strontium salicylate, see combn. in Analeptone-Anabolic tabs. (Reed & Carnrick), p. 48.

Sulfacetamide, see combn. in Trip-Sul susp. and tabs. (Carrtone), p. 186.

Sulfadiazine, see combns. in Ilosone lauryl sulfate sulfa for oral susp. (Lilly), p. 110; in Trip-Sul susp. and tabs. (Carrtone), p. 114.

Sulfamerazine, see combns. in Ilosone lauryl sulfate sulfa for oral susp. (Lilly), p. 110; in Trip-Sul susp. and tabs. (Carrtone), p. 114.

Sulfamethazine, see combn. in Ilosone lauryl sulfate sulfa for oral susp. (Lilly), p. 110.

Sulfamethoxypyridazine, see combn. in Azo Kynex tabs. (Lederle), p. 49.

Sulfanilamide, see combn. in Powdalator-ES unit (Abbott), p. 53.

Sulfas (diazine, merazine, methazine), see combn. in Compocillin-VK w/sulfas for oral susp. (Abbott), p. 109.

Sulfur, colloidal, see combn. in pHisoac cream (Winthrop), p. 182.

Surgamycin spray oint., p. 55.

Syncillin tabs. and powd. for oral soln. (Bristol), p. 55.

Synex and **Synex-SA** caps. (Phila Ampoule), p. 114.

Synta and **Synta w/Hydrocortisone** Oints. (Dumas-Wilson). Nonstaining synthetic coal tar equiv. to 13% natural coal tar in a lipophilic base of petroleum, zinc oxide, and starch. One oint. has hydrocortisone alcohol 0.5% added. For localized lichenified, eczematous, and occupational dermatoses, and neurodermatoses. w/Hydrocortisone for allergic complications. Contraindicated in infantile eczema or over large areas of body; apply to fingers and toes only at night and do not bandage; may cause folliculitus if used on hairy parts of skin. *Application:* To affected area once or twice daily; may cover with light dressing. Synta in 1.5-oz. tubes and 16-oz. jars; w/hydrocortisone in 0.5-oz. tubes. ℞.

Syrosingopine NND, p. 55.

Terramycin with glucosamine, see Cosa-Terrabon (Pfizer), p. 177.

Tessalon (Ciba), see benzonatate NND, p. 49.

Tetracycline, see combn. in smallpox vaccine, avianized (Lederle), p. 54.

Tetracycline, potassium metaphosphate-potentiated, see combn. in Mysteclin-F for aqueous drops and for syrup (Squibb), p. 181.

Tetracycline HCl, see combn. in Surgamycin spray oint. (Am. Cyanamid), p. 55.

Texacort Lotion 25 (Texas Pharmacal) contains hydrocortisone alcohol 0.25% in a nonionic o/w emulsion at pH 4.6. For topical maintenance therapy in atopic dermatitis or infantile eczema and for control of susceptible eczematous eruptions. *Application:* Topically, 3–4 times daily until eruptions and pruritis are controlled then 1–2 times daily. Continued use after skin appears normal is recommended to lessen likelihood of flareups. 4-oz. bottles. ℞.

Theophylline calcium salicylate, see combn. in Quadrinal susp. (Knoll), p. 184.

Therabile Tablets (B.F. Ascher). Per blue, coated tab.: in sugar-coated outer layer—homatropine CH_3Br 2.5 mg., ginger oleoresin 0.1 mg.; in enteric-coated core—desoxycholic acid 25 mg., ferrated ox bile 200 mg., methionine 100 mg., pancreatin 62.5 mg. (equiv. to pancreatin NF 250 mg.). For treatment of biliary stasis, noncalculous cholangitis, cholecystitis, biliary dyskinesia, hepatobiliary dysfunction; and as adjunctive therapy in fat metabolism derangements such as arteriosclerosis, diabetes, obesity, and certain skin conditions. *Dosage:* 1–2 tabs. t.i.d. after meals. Bottles of 100 and 500. ℞.

Thi-li-fer Forte Injection (C.F. Kirk). Per cc. aq. soln.: vit. B_{12} 30 mcg., B_1 10 mg., Fe (as soluble ferric citrate) 28 mg., liver inj. 0.25 cc. Hematinic for rapid effect where oral medication is ineffective. *Dosage:* I.m., 1 cc. weekly. Multiple-dose 10-cc. vials. ℞.

Thioperazine as antiemetic, p. 55.

Thorphan and **Thorphan** Jr. Syrups (Bryant), p. 114.

Tigan Timespan Tablets (Roche). Per blue capsule-shaped tab.: 300 mg. Tigan (trimethobenzamide) HCl. For prevention and control of nausea and vomiting the slow-release form is particularly useful in pregnancy. *Dosage:* In pregnancy, 2 tabs. at bedtime; in severe cases, additional 1–2 tabs. upon arising. Other adults, 1–2 tabs. twice daily. Bottles of 50 and 500. ℞.

Tofranil Tablets (Geigy). Per tab.: 25 mg. imipramine HCl. Now also in bottles of 1000. See THIS JOURNAL, **20,** 475 (Aug. 1959).

Toleron (Mallinckrodt), see ferrous fumarate NND, p. 178.

Trancopal (Winthrop), p. 55.

Triacetin NND, p. 55.

Triamcinolone acetonide, see Kenalog parenteral susp. (Squibb), p. 180; Kenalog spray (Squibb), p. 180; see combns. in Kenalog-S cream and oint. (Squibb), p. 180; in Neo-Aristoderm foam (Lederle), p. 181.

Triamcinolone diacetate, see Aristocort diacetate syrup (Lederle), p. 48.

Triaminic (Smith-Dorsey), see combn. in Ursinus tabs. (Smith-Dorsey), p. 186.

Tricofuron vaginal suppos. (Eaton), p. 114.

Trilafon suppos. (Schering), p. 55.

Trimeprazine tartrate NND; Temaril tartrate (SK&F); 10-(3-dimethylamino-2-methylpropyl)phenothiazine tartrate. Structurally and pharmacologically related to promazine, trimeprazine exerts most of the actions of phenothiazine derivatives, such as depression of the central and sympathetic nervous systems and antihistaminic action. It causes mild drowsiness. In general, all the precautions applicable to other phenothiazine compounds such as promethazine and chlorpromazine should be observed with trimeprazine. Some actions, especially the antiemetic, hypo-

tensive, and potentiating effects, are not as prominent as with other phenothiazine derivatives. Animal studies indicated possible uses for trimeprazine in allergic disorders and mental or emotional states but clinical tests brought out its antipruritic action in low doses, and this is now its specified use. Introduced 1958. See *J. Am. Med. Assn.*, **171,** 893 (Oct. 17, 1959).

Trimethobenzamide HCl, see Tigan Timespan tabs. (Roche), p. 185.

Trip-Sul susp. and tabs. (Carrtone), p. 114.

Tristacomp liq. and tabs. (Physicians), p. 114.

Tritranquil tabs. (Meyer), p. 55.

Tussahist Syrup (D.E. Finley). Per 5 cc. (cherry): codeine phosphate 10 mg., chlorpheniramine maleate 2 mg., pyrilamine maleate 7.5 mg., phenylpropanolamine HCl 12.5 mg., glyceryl guaiacolate 100 mg. For cough of allergic or bronchial origin. *Dosage:* 2 tsps. q.i.d.; children 6–12 yrs., 1 tsp. q.i.d.; under 6 yrs., adjusted dose. Pts. and gals. Exempt narcotic.

Tussin Liquid (Dumas-Wilson). Per 5 cc.: dextromethorphan HBr 15 mg., chloroform 32 mg., benzyl alcohol 40 mg., sodium citrate 45 mg., potassium guaiacolsulfonate 90 mg., ammonium chloride 90 mg. For "dry" colds and where respiratory passage mucous is viscous and tenacious. *Dosage:* Every 3–4 hrs. 1–2 tsps.; children 4–12 yrs., 1 tsp.; 2–4 yrs., $^1/_2$ tsp. Pts. and gals. ℞.

Twix tabs. (Carrtone), p. 55.

Tyrothricin, see combn. in Pyrojel w/tyrothricin emulsion (Bruce Parenterals), p. 113.

Undecylenic acid, see Verdefam cream (Texas Pharmacal), p. 55.

Ursinus tabs. (Smith-Dorsey), p. 114.

Valethamate bromide, see combn. in Murel-S.A. and Murel w/phenobarbital-S.A. (Ayerst), p. 111.

Valtorin, a mild analgesic, is manufactured and distributed in the United Kingdom by Pfizer Ltd., Folkestone, Kent, for C.H. Boehringer Sohn. It is claimed, in advt. in *Pharm. J.*, Jan. 2, 1960 (Inset IV–V) that Valtorin, dose for dose is more effective than aspirin and paracetamol (acetaminophen), its action lasts 50% longer, and that it is also more effective than codeine as a mild analgesic. The active principle is stated to be 2-(β-chlorethyl)-2,3-dihydro-4-oxo-(benzo-1,3-oxazine). It is claimed to have a therapeutic index of 1:1000, being 6 times safer than aspirin and 3 times safer than acetaminophen. It is further claimed that Valtorin is a potent antipyretic. This last claim may be related to the fact that under the trade name appears the above chemical formula followed by "with phenacetin." It is not available in U.S.

Vastran elixir (Wampole), p. 114.

Velacycline Injections, I.M. & I.V. (Squibb). Per single-dose vial of i.m. inj.: 150 mg. or 350 mg. N-(pyrrolidinomethyl) tetracycline with lidocaine 40 mg., ascorbic acid 300 mg. Per vial of i.v. inj.: N-(pyrrolidinomethyl) tetracycline 700 mg., ascorbic acid 300 mg. Indications as for tetracycline. *Dosage:* I.M., initially or for severe infections, 350 mg. twice daily or 150 mg. t.i.d.; children, 15–20 mg./Kg. divided into 2 equal doses. I.V. infusion, 350–700 mg. every 12 hrs.; children according to body weight. I.M. in single-dose vials; I.V. in vials of 700 mg. ℞

Verdefam cream (Texas Pharmacal), p. 55.

Vicon-M caps. (Meyer), p. 114.

Viokase (VioBin), p. 114.

Vita-12 Fortified Tablets (Crystal). Per tab.: ferrous gluconate 170 mg., vit. B_{12} 1.25 mcg., B_1 1.25 mg., B_2 0.67 mg., niacinamide 6.67 mg., liver-stomach powder 333 mg. For anemias responsive to iron-B-complex therapy. *Dosage:* 3 tabs. daily. Bottles of 100. O-t-c.

Vitamin B_1, see combns. in Thi-li-fer Forte inj. (Kirk), p. 185; in Zolger tabs. (Superior), p. 114.

Vitamin B_{12}, see combns. in Almezyme liq. (Meyer), p. 174; in Coferic tabs. (Crestmed), p. 50; in Thi-li-fer Forte inj. (Kirk), p. 185.

Vitamin B_{12} with intrinsic factor in pernicious anemia, p. 55.

Vitamin B_{12} repository complex, see Depinar inj. (Armour), p. 50.

Vitamin B-complex w/Fe, see Vita-12 fortified tabs. (Crystal), p. 186.

Vitamin C, see ascorbic acid, p. 108; combns. in Loupred tabs. (Louisons), p. 112; in Pancidin tabs. and Pancidin Forte Panseals (Pan American), p. 112.

Vitamin D_2, see combn. in Calsans tabs. (Podiatrex), p. 109.

Vitamin-amino acid-iron combn., see combn. in Basigets Ultima tabs. (Kendall), p. 176.

Vitamin-mineral combn., see Obron improved caps. (Roerig), p. 111; Podiplex caps. (Podiatrex), p. 112; see combns. in Calettes tabs. (Crystal), p. 176; in Nicozol complex liq. (Drug Specialties), p. 181.

Vitamins, see combns. in a/50 caps. (Podiatrex), p. 108; in Belfer tabs. (Durst), p. 49; in Cardenz tabs. (Miller), p. 176; in Fortespan Spansule caps. (SK&F), p. 51; in Obestrol caps. (Crestmed), p. 53; in B-12 Plex c̄ C inj. (Phila. Ampoule), p. 49; in Stabil-A plus caps. (Dumas-Wilson), p. 185.

Vitamins B_2 and B_{12} w/folic acid, see combn. in Mucoplex tabs. (Stuart), p. 181.

Vitamins, B-complex with C, see Vastran elixir (Wampole), p. 114.

Vitamins including niacin with iodine, see Niatherm tabs. (Podiatrex), p. 111.

Vitamins, water-soluble, see combn. in K-Plex syrup (Walker), p. 52.

Vitamins w/glutamic acid HCl, see combn. in Senilavite (D.E. Finley), p. 184.

Vitamins w/iron and hesperidin, see combn. in Gevitone tabs. (Crestmed), p. 51.

Zirconium carbonate (hydrous), see combn. in Dermagel w/prednisolone cream (Bruce Parenterals), p. 114.

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